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FIRST LESSONS

IN

ARITHMETIC,

DESIGNED FOR BEGINNERS.

BY CHARLES DAVIES, LL.D.

AUTHOR OF ELEMENTARY ALGEBRA, ELEMENTS OF SURVEYING,
ELEMENTS OF DESCRIPTIVE GEOMETRY, SHADES, SHADOWS
AND PERSPECTIVE, ANALYTICAL GEOMETRY, AND
DIFFERENTIAL AND INTEGRAL CALCULUS.

NEW YORK:
PUBLISHED BY A. S. BARNES & CO.
NO. 51 JOHN STREET.

1847.

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THE GIFT OF
Prof J. P. Marshall
Tufts College
June 26. 1863.

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BOARD OF COMMISSIONERS OF
PUBLIC SCHOOLS, BALTIMORE,
August, 1842.

AT a meeting of the Board of Commissioners of Public Schools, Baltimore, to hear the report of the Book Committee, upon Davies' Elementary Series. The following resolution was offered, and adopted:—

Resolved,—That DAVIES' FIRST LESSONS IN ARITHMETIC, DAVIES' ARITHMETIC, DAVIES' ALGEBRA, DAVIES' PRACTICAL GEOMETRY, and DAVIES' ELEMENTARY GEOMETRY, be introduced into the Public Schools of Baltimore.

JAMES LUCAS,
MICHAEL TONER,
JOHN F. MONMONIER,
Commissioners.

From the Minutes,
JOHN F. TILYARD, *Clerk*.

CHAMBER OF THE CONTROLLERS OF PUBLIC SCHOOLS,
FIRST SCHOOL DISTRICT OF PENNSYLVANIA.
Philadelphia, September 15, 1842.

AT a meeting of the Board of Controllers of the Public Schools of the First School District of Pennsylvania, held at the Controllers' Chamber, on Tuesday afternoon, September 13, 1842, it was

Resolved,—That DAVIES' FIRST LESSONS IN ARITHMETIC, and DAVIES' ARITHMETIC, be introduced into the Public Schools of the District; and also, that DAVIES' ALGEBRA be introduced therein; the latter under the Resolution of the 12th day of November, 1839.

From the Minutes,
THOMAS B. FLORENCE,
Secretary.

Entered according to Act of Congress, in the year 1840, by
CHARLES DAVIES,
in the Clerk's Office of the District Court of Connecticut.

HARVARD COLLEGE
Sept 19, 1927
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PREFACE.

THE FIRST LESSONS IN ARITHMETIC are designed for beginners. They are the first steps in a course of arithmetical instruction. They begin with counting, and advance step by step through all the simple combinations of numbers.

In order that the pupil may be impressed with the fact that numbers express a collection of units, or things of the same kind, the unit, in the beginning, is represented by a star, and the child should be made to count the stars in all cases where they are used.

Having once fixed in the mind a correct impression of numbers, it was deemed no longer necessary to represent the unit by a symbol; and hence the use of the star was discontinued.

From the combinations of the unit, forming the whole numbers, the child is next made acquainted with its divisions, which form the fractions; and great care has been taken to consider each fraction by *itself.*

A second part is added, embracing the general properties of fractions and the proportion of numbers. As these relations of numbers are too difficult for the younger scholars of a class, it was thought best to separate them from the simple principles, and leave them as exercises for the more advanced pupils.

At the end of the oral arithmetic a supplement is added, which is intended for an exercise with the slate. There is another advantage which may be derived from the supplement. Instead of dividing a class, or keeping back the more apt scholars for those who are less gifted, the former may be employed on the supplement until the latter are ready to be advanced.

WEST POINT, JULY, 1843.

FIRST LESSONS
IN
ARITHMETIC.

SECTION FIRST.

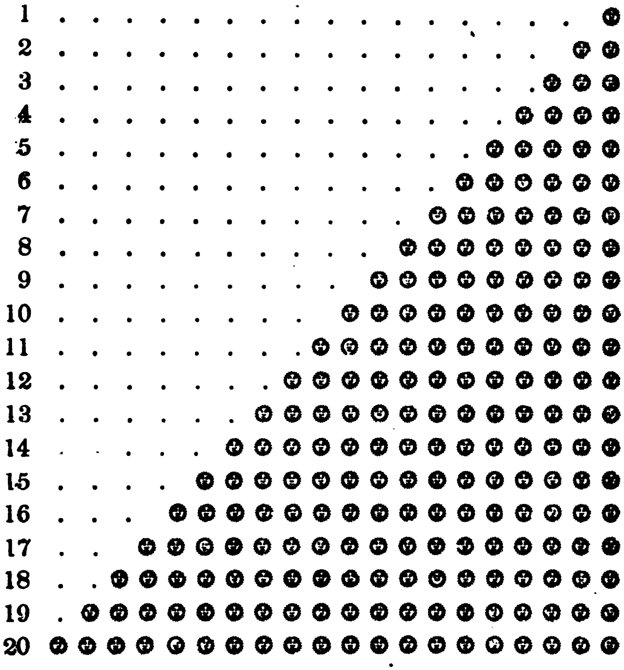
LESSON I.

Counting.

One, ●
Two, ● ●
Three, ● ● ●
Four, ● ● ● ●
Five, ● ● ● ● ●
Six, ● ● ● ● ● ●
Seven, ● ● ● ● ● ● ●
Eight, ● ● ● ● ● ● ● ●
Nine, ● ● ● ● ● ● ● ● ●
Ten, ● ● ● ● ● ● ● ● ● ●
Eleven, ● ● ● ● ● ● ● ● ● ● ●
Twelve, ● ● ● ● ● ● ● ● ● ● ● ●
Thirteen, ● ● ● ● ● ● ● ● ● ● ● ● ●
Fourteen, ● ● ● ● ● ● ● ● ● ● ● ● ● ●
Fifteen, ● ● ● ● ● ● ● ● ● ● ● ● ● ● ●
Sixteen, ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ●
Seventeen, ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ●
Eighteen, ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ●
Nineteen, ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ●
Twenty, ●

LESSON II.

Figures from One to Twenty.



Which figure stands for two? Which figure stands for four? Which figure stands for nine? Which stands for eight? What stands for ten? What stands for twelve? What stands for fourteen? What stands for sixteen? What stands for eighteen? What stands for twenty? What stands for seventeen? What stands *for fifteen*? What stands for nineteen? What stands *for eleven*? What stands for thirteen?

LESSON III.

Figures from One to One Hundred.

Naught	0	Thirty-four	34	Sixty-eight	68
One	1	Thirty-five	35	Sixty-nine	69
Two	2	Thirty-six	36	Seventy	70
Three	3	Thirty-seven	37	Seventy-one	71
Four	4	Thirty-eight	38	Seventy-two	72
Five	5	Thirty-nine	39	Seventy-three	73
Six	6	Forty	40	Seventy-four	74
Seven	7	Forty-one	41	Seventy-five	75
Eight	8	Forty-two	42	Seventy-six	76
Nine	9	Forty-three	43	Seventy-seven	77
Ten	10	Forty-four	44	Seventy-eight	78
Eleven	11	Forty-five	45	Seventy-nine	79
Twelve	12	Forty-six	46	Eighty	80
Thirteen	13	Forty-seven	47	Eighty-one	81
Fourteen	14	Forty-eight	48	Eighty-two	82
Fifteen	15	Forty-nine	49	Eighty-three	83
Sixteen	16	Fifty	50	Eighty-four	84
Seventeen	17	Fifty-one	51	Eighty-five	85
Eighteen	18	Fifty-two	52	Eighty-six	86
Nineteen	19	Fifty-three	53	Eighty-seven	87
Twenty	20	Fifty-four	54	Eighty-eight	88
Twenty-one	21	Fifty-five	55	Eighty-nine	89
Twenty-two	22	Fifty-six	56	Ninety	90
Twenty-three	23	Fifty-seven	57	Ninety-one	91
Twenty-four	24	Fifty-eight	58	Ninety-two	92
Twenty-five	25	Fifty-nine	59	Ninety-three	93
Twenty-six	26	Sixty	60	Ninety-four	94
Twenty-seven	27	Sixty-one	61	Ninety-five	95
Twenty-eight	28	Sixty-two	62	Ninety-six	96
Twenty-nine	29	Sixty-three	63	Ninety-seven	97
Thirty	30	Sixty-four	64	Ninety-eight	98
Thirty-one	31	Sixty-five	65	Ninety-nine	99
Thirty-two	32	Sixty-six	66	One hundred	100
Thirty-three	33	Sixty-seven	67	Two hundred	200

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LESSON V.

Roman Table.

I	One	XX	Twenty
II	Two	XXI	Twenty-one
III	Three	XXX	Thirty
IV	Four	XL	Forty
V	Five	L	Fifty
VI	Six	LX	Sixty
VII	Seven	LXX	Seventy
VIII	Eight	LXXX	Eighty
IX	Nine	XC	Ninety
X	Ten	C	One hundred
XI	Eleven	CC	Two hundred
XII	Twelve	CCC	Three hundred
XIII	Thirteen	CCCC	Four hundred
XIV	Fourteen	D	Five hundred
XV	Fifteen	DC	Six hundred
XVI	Sixteen	DCC	Seven hundred
XVII	Seventeen	DCCC	Eight hundred
XVIII	Eighteen	DCCCC	Nine hundred
XIX	Nineteen	M	One thousand

This table is read, one I, one; two I's, two; three I's, three; IV, four, &c.

What stands for two? What stands for four? What stands for five? What stands for eight? What stands for ten? What stands for twenty? What stands for thirty? What stands for forty? What stands for fifty? What stands for sixty? What stands for seventy? What stands for eighty? What stands for ninety? What stands for one hundred? What stands for five hundred? What for one thousand?

LESSON VI.

In which One is added to each Number as far as Ten.

One and one are how many?
● ●

One and two are how many?
● ● ●

One and three are how many?
● ● ● ●

One and four are how many?
● ● ● ● ●

One and five are how many?
● ● ● ● ● ●

One and six are how many?
● ● ● ● ● ● ●

One and seven are how many?
● ● ● ● ● ● ● ●

One and eight are how many?
● ● ● ● ● ● ● ● ●

One and nine are how many?
● ● ● ● ● ● ● ● ● ●

One and ten are how many?
● ● ● ● ● ● ● ● ● ● ●

Commit the following Table to memory:—

1 and 1 are 2	1 and 6 are 7
1 and 2 are 3	1 and 7 are 8
1 and 3 are 4	1 and 8 are 9
1 and 4 are 5	1 and 9 are 10
1 and 5 are 6	1 and 10 are 11

LESSON VII.

In which Two is added to each Number as far as Ten.

Two ● ●	and	one ●	are how many?
Two ● ●	and	two ● ●	are how many?
Two ● ●	and	three ● ● ●	are how many?
Two ● ●	and	four ● ● ● ●	are how many?
Two ● ●	and	five ● ● ● ● ●	are how many?
Two ● ●	and	six ● ● ● ● ● ●	are how many?
Two ● ●	and	seven ● ● ● ● ● ● ●	are how many?
Two ● ●	and	eight ● ● ● ● ● ● ● ●	are how many?
Two ● ●	and	nine ● ● ● ● ● ● ● ● ●	are how many?
Two ● ●	and	ten ● ● ● ● ● ● ● ● ● ●	are how many?

Commit the following Table to memory:—

2 and 1 are 3	2 and 6 are 8
2 and 2 are 4	2 and 7 are 9
2 and 3 are 5	2 and 8 are 10
2 and 4 are 6	2 and 9 are 11
2 and 5 are 7	2 and 10 are 12

LESSON VIII.

In which the Number Three is added to each Number as far as Ten.

Three and one are how many?
● ● ● ●

Three and two are how many?
● ● ● ● ●

Three and three are how many?
● ● ● ● ● ●

Three and four are how many?
● ● ● ● ● ● ●

Three and five are how many?
● ● ● ● ● ● ● ●

Three and six are how many?
● ● ● ● ● ● ● ● ●

Three and seven are how many?
● ● ● ● ● ● ● ● ● ●

Three and eight are how many?
● ● ● ● ● ● ● ● ● ● ●

Three and nine are how many?
● ● ● ● ● ● ● ● ● ● ● ●

Three and ten are how many?
● ● ● ● ● ● ● ● ● ● ● ● ●

Commit the following Table to memory:—

3 and 1 are 4	3 and 6 are 9
3 and 2 are 5	3 and 7 are 10
3 and 3 are 6	3 and 8 are 11
3 and 4 are 7	3 and 9 are 12
3 and 5 are 8	3 and 10 are 13

LESSON IX.

In which the Number Four is added to each Number as far as Ten.

Four and one are how many?
● ● ● ● ●

Four and two are how many?
● ● ● ● ● ●

Four and three are how many?
● ● ● ● ● ● ●

Four and four are how many?
● ● ● ● ● ● ● ●

Four and five are how many?
● ● ● ● ● ● ● ● ●

Four and six are how many?
● ● ● ● ● ● ● ● ● ●

Four and seven are how many?
● ● ● ● ● ● ● ● ● ● ●

Four and eight are how many?
● ● ● ● ● ● ● ● ● ● ● ●

Four and nine are how many?
● ● ● ● ● ● ● ● ● ● ● ● ●

Four and ten are how many?
● ● ● ● ● ● ● ● ● ● ● ● ● ●

Commit the following Table to memory:—

4 and 1 are 5
4 and 2 are 6
4 and 3 are 7
4 and 4 are 8
4 and 5 are 9

4 and 6 are 10
4 and 7 are 11
4 and 8 are 12
4 and 9 are 13
4 and 10 are 14

LESSON X.

In which the Number Five is added to each Number as far as Ten.

Five	and	one	are how many?
● ● ● ● ●		●	
Five	and	two	are how many?
● ● ● ● ●		● ●	
Five	and	three	are how many?
● ● ● ● ●		● ● ●	
Five	and	four	are how many?
● ● ● ● ●		● ● ● ●	
Five	and	five	are how many?
● ● ● ● ●		● ● ● ● ●	
Five	and	six	are how many?
● ● ● ● ●		● ● ● ● ● ●	
Five	and	seven	are how many?
● ● ● ● ●		● ● ● ● ● ● ●	
Five	and	eight	are how many?
● ● ● ● ●		● ● ● ● ● ● ● ●	
Five	and	nine	are how many?
● ● ● ● ●		● ● ● ● ● ● ● ● ●	
Five	and	ten	are how many?
● ● ● ● ●		● ● ● ● ● ● ● ● ● ●	

Commit the following Table to memory.—

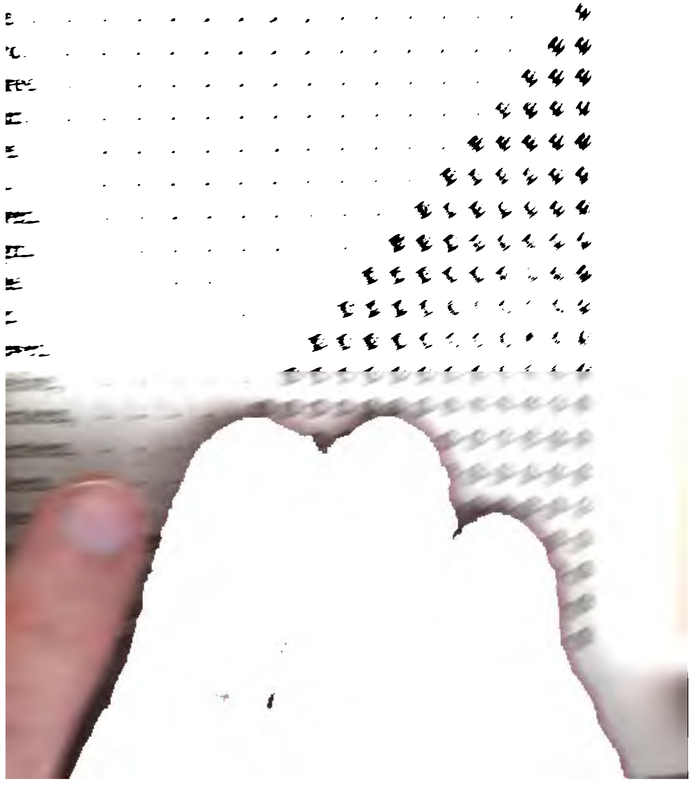
5 and 1 are 6	5 and 6 are 11
5 and 2 are 7	5 and 7 are 12
5 and 3 are 8	5 and 8 are 13
5 and 4 are 9	5 and 9 are 14
5 and 5 are 10	5 and 10 are 15

FIRST LESSONS IN ARITHMETIC,

SECTION FIRST.

LESSON I.

Counting.



LESSON XII.

In which the Number Seven is added to each Number as far as Ten.

Seven and one are how many?
●●●●●●● ●

Seven and two are how many?
●●●●●●● ●●

Seven and three are how many?
●●●●●●● ●●●

Seven and four are how many?
●●●●●●● ●●●●

Seven and five are how many?
●●●●●●● ●●●●●

Seven and six are how many?
●●●●●●● ●●●●●●

Seven and seven are how many?
●●●●●●● ●●●●●●●

Seven and eight are how many?
●●●●●●● ●●●●●●●●

Seven and nine are how many?
●●●●●●● ●●●●●●●●●

Seven and ten are how many?
●●●●●●● ●●●●●●●●●●

Commit the following Table to memory:—

7 and 1 are 8	7 and 6 are 13
7 and 2 are 9	7 and 7 are 14
7 and 3 are 10	7 and 8 are 15
7 and 4 are 11	7 and 9 are 16
7 and 5 are 12	7 and 10 are 17

LESSON III.

Figures from One to One Hundred.

Naught	0
One	1
Two	2
Three	3
Four	4
Five	5
Six	6
Seven	7
Eight	8
Nine	9
Ten	10
Eleven	11
Twelve	12
Thirteen	13
Fourteen	14
Fifteen	15
Sixteen	16
Seventeen	17
Eighteen	18
Nineteen	19
Twenty	20
Twenty-one	21
Twenty-two	22
Twenty-three	23
Twenty-four	24
Twenty-five	25
Twenty-six	26
Twenty-seven	27
Twenty-eight	28
Twenty-nine	29
Thirty	30
Thirty-one	31
Thirty-two	32
Thirty-three	33
Thirty-four	34
Thirty-five	35
Thirty-six	36
Thirty-seven	37
Thirty-eight	38
Thirty-nine	39
Forty	40
Forty-one	41
Forty-two	42
Forty-three	43
Forty-four	44
Forty-five	45
Forty-six	46
Forty-seven	47
Forty-eight	48
Forty-nine	49
Fifty	50
Fifty-one	51
Fifty-two	52
Fifty-three	53
Fifty-four	54
Fifty-five	55
Fifty-six	56
Fifty-seven	57
Fifty-eight	58
Fifty-nine	59
Sixty	60
Sixty-one	61
Sixty-two	62
Sixty-three	63
Sixty-four	64
Sixty-five	65
Sixty-six	66
Sixty-seven	67
Sixty-eight	68
Sixty-nine	69
Seventy	70
Seventy-one	71
Seventy-two	72
Seventy-three	73
Seventy-four	74
Seventy-five	75
Seventy-six	76
Seventy-seven	77
Seventy-eight	78
Seventy-nine	79
Eighty	80
Eighty-one	81
Eighty-two	82
Eighty-three	83
Eighty-four	84
Eighty-five	85
Eighty-six	86
Eighty-seven	87
Eighty-eight	88
Eighty-nine	89
Ninety	90
Ninety-one	91
Ninety-two	92
Ninety-three	93
Ninety-four	94
Ninety-five	95
Ninety-six	96
Ninety-seven	97
Ninety-eight	98
Ninety-nine	99
One hundred	100
Two hundred	200

LESSON IV.

Figures to be read.

1	45	79	59	26	14
5	16	97	96	40	43
7	39	81	53	82	67
19	93	18	71	80	83
27	63	72	22	88	10
29	30	28	23	37	62
36	78	100	32	20	61
99	48	89	52	94	96
17	84	98	85	91	25
21	51	54	58	74	70
87	15	65	31	13	68

What stands for twenty-one? What stands for twenty-five? What stands for thirty? What stands for thirty-seven? What stands for sixty-one? What stands for seventy-five? What stands for eighty-six? What stands for ninety-one? What stands for sixty-nine? What stands for twenty-eight? What stands for forty-one? What stands for fifty-six?

Write the following numbers, in figures, on the slate:

Twenty-one. Twenty-six. Twenty-nine. Thirty-five. Sixty-seven. Ninety-eight. Six. Eighty-one. Eighty-seven. Eighty-nine. Forty-six. Fifty-seven. Fifty-nine. Sixty-four. One hundred. Seventy-five. Seventy. Sixty. Fifty. Ten. Twelve. Fourteen. *Nineteen. Twenty.* Twenty-six. Ninety-one.

LESSON V.

Roman Table.

I	One	XX	Twenty
II	Two	XXI	Twenty-one
III	Three	XXX	Thirty
IV	Four	XL	Forty
V	Five	L	Fifty
VI	Six	LX	Sixty
VII	Seven	LXX	Seventy
VIII	Eight	LXXX	Eighty
IX	Nine	XC	Ninety
X	Ten	C	One hundred
XI	Eleven	CC	Two hundred
XII	Twelve	CCC	Three hundred
XIII	Thirteen	CCCC	Four hundred
XIV	Fourteen	D	Five hundred
XV	Fifteen	DC	Six hundred
XVI	Sixteen	DCC	Seven hundred
XVII	Seventeen	DCCC	Eight hundred
XVIII	Eighteen	DCCCC	Nine hundred
XIX	Nineteen	M	One thousand

This table is read, one I, one; two I's, two; three I's, three; IV, four, &c.

What stands for two? What stands for four? What stands for five? What stands for eight? What stands for ten? What stands for twenty? What stands for thirty? What stands for forty? What stands for fifty? What stands for sixty? What stands for seventy? What stands for eighty? What stands for ninety? What stands for one hundred? What stands for five hundred? What for one thousand?

A second part is added, embracing the general properties of fractions and the proportion of numbers. As these relations of numbers are too difficult for the younger scholars of a class, it was thought best to separate them from the simple principles, and leave them as exercises for the more advanced pupils.

At the end of the oral arithmetic a supplement is added, which is intended for an exercise with the slate. There is another advantage which may be derived from the supplement. Instead of dividing a class, or keeping back the more apt scholars for those who are less gifted, the former may be employed on the supplement until the latter are ready to be advanced.

WEST POINT, JULY, 1843.

FIRST LESSONS
IN
ARITHMETIC.

SECTION FIRST.

LESSON I.

Counting.

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LESSON XVIII.

Examples in Addition.

1. Eleven and one are how many? Eleven and two? Eleven and three? Eleven and four? Eleven and five? Eleven and six? Eleven and seven? Eleven and eight? Eleven and nine? Eleven and ten?

2. Twenty-two and one are how many? Twenty-two and two? Twenty-two and three? Twenty-two and four? Twenty-two and five? Twenty-two and six? Twenty-two and seven? Twenty-two and eight? Twenty-two and nine? Twenty-two and ten?

3. Thirty-three and one are how many? Thirty-three and two are how many? Thirty-three and three? Thirty-three and four? Thirty-three and five? Thirty-three and six? Thirty-three and seven? Thirty-three and eight? Thirty-three and nine? Thirty-three and ten?

4. Forty-four and one are how many? Forty-four and two? Forty-four and three? Forty-four and five? Forty-four and six? Forty-four and seven? Forty-four and eight? Forty-four and nine? Forty-four and ten?

5. Fifty-five and one are how many? Fifty-five and two are how many? Fifty-five and three? Fifty-five and four? Fifty-five and five? Fifty-five and six? Fifty-five and seven? Fifty-five and eight? Fifty-five and nine? Fifty-five and ten? Fifty-six and two are how many? Fifty-six and three? Fifty-six and four? Fifty-six and five?

LESSON XIX.

Examples in Addition.

1. Sixty six and one are how many? Sixty-six and two are how many? Sixty-six and three? Sixty-six and four? Sixty-six and five? Sixty-six and six? Sixty-six and seven? Sixty-six and eight? Sixty-six and nine? Sixty-six and ten?

2. Seventy-seven and one are how many? Seventy-seven and two are how many? Seventy-seven and three? Seventy-seven and four? Seventy-seven and five? Seventy-seven and six? Seventy-seven and seven? Seventy-seven and eight? Seventy-seven and nine? Seventy-seven and ten?

3. Eighty-eight and one are how many? Eighty-eight and two are how many? Eighty-eight and three? Eighty-eight and four? Eighty-eight and five? Eighty-eight and six? Eighty-eight and seven? Eighty-eight and eight? Eighty-eight and nine? Eighty-eight and ten?

4. Ninety-nine and one are how many? Ninety-nine and two are how many? Ninety-nine and three? Ninety-nine and four? Ninety-nine and five? Ninety-nine and six? Ninety-nine and seven? Ninety-nine and eight? Ninety-nine and nine? Ninety-nine and ten?

5. Ninety-eight and one are how many? Ninety-eight and two are how many? Ninety-eight and three? Ninety-eight and four? Ninety-eight and five? Ninety-eight and six? Ninety-eight and seven? Ninety-eight and nine?

LESSON XX.

Numeration, or Reading Figures.

Ten Units make one Ten.
Ten Tens make one Hundred.
Ten Hundreds make one Thousand.

Commit to memory the words Units, Tens, Hundreds, Thousands.

	Thousands.	Hundreds.	Tens.	Units.
Four Units, ...				4
Six Units and five Tens, ...			5	6
Six Units, three Tens, two Hundreds, .		2	3	6
8 Units, 7 Tens, 5 Hundreds, 3 Thousands,	3	5	7	8

1. Write three thousand. . . . . *Ans.* 3000
2. Write three hundred and seventy-five. *Ans.* 375
3. Write six hundred and twenty-one. . *Ans.* 621

Numerate the following figures :—

1267	1675	8742	6728
8941	109	405	4213
7840	2009	87	3070
8041	2104	90	8041
7087	3067	990	7012
100	7032	9999	8405
211	8015	8980	8705

SECTION SECOND.

LESSON I.

In which One is taken from each Number as far as Ten.

1. If John has one apple and gives it to William, what will he have left? One from one, what remains?

2. If John has two apples and gives one to William, how many will he have left? One from two, what remains?

3. If John has three apples and gives one to James, how many will he have left? One from three, what remains?

4. If John has four apples and gives one to William, how many are left? One from four, what remains?

5. John has five apples and gives one to Charles: how many are left? One from five, what remains?

6. If John has six apples and gives one to James, how many has he left? One from six, and what remains?

7. If John has seven apples and gives one to Samuel, how many are left? One from seven, what remains?

8. If John has eight apples and gives one to William, how many will be left? One from eight, and what remains?

9. If John has nine apples and gives one to James, how many will be left? One from nine, and what remains?

10. If John has ten apples and gives one to Charles, how many will be left? One from ten, and what remains?

Commit the following Table to memory:—

1 from 1 leaves 0	1 from 6 leaves 5
1 from 2 leaves 1	1 from 7 leaves 6
1 from 3 leaves 2	1 from 8 leaves 7
1 from 4 leaves 3	1 from 9 leaves 8
1 from 5 leaves 4	1 from 10 leaves 9

LESSON II.

In which the Number Two is taken from each Number as far as Ten.

1. If Charles has two apples and gives them both to James, how many will be left? Two from two, and what remains?

2. If Charles has three apples and gives two to James, how many will he have left? Two from three, and what remains?

3. If Charles has four apples and gives two to his sister Mary, how many will he have left? Two from four, and what remains?

4. If Charles has five apples and gives two to his sister, how many will he have left? Two from four, *and what remains?*

5. If Charles has six apples and gives two to Thomas, how many will he have left? Two from six, and what remains?

6. If Charles has seven apples and gives two to William, how many will he have left? Two from seven, and what remains?

7. If Charles has eight apples and gives two to his sister Jane, how many will he have left? Two from eight, and how many remains?

8. If Charles has nine apples and gives two to John, how many will he have left? Two from nine, and what remains?

9. If Charles has ten apples and gives two to William, how many will he have left? Two from ten, and what remains?

10. A man bought eleven eggs, and found nine bad ones among them: how many were good?

11. Jane bought ten needles, and lost six: how many had she left?

12. Charles bought eight sheets of paper, and spoiled five: how many had he left?

Commit the following Table to memory:—

2 from 2 leaves 0
2 from 3 leaves 1
2 from 4 leaves 2
2 from 5 leaves 3
2 from 6 leaves 4
2 from 7 leaves 5
2 from 8 leaves 6
2 from 9 leaves 7
2 from 10 leaves 8
2 from 11 leaves 9

LESSON III.

In which the Number Three is taken from each Number as far as Ten.

1. If William has three peaches and gives them all to James, how many will he have left? Three from three, and what remains?

2. If William has four peaches and gives three to John, how many will he have left? Three from four, and what remains?

3. If William has five peaches and gives three to his brother, how many will he have left? Three from five, how many remain?

4. If William has six peaches and gives three to his sister, how many will he have left? Three from six, and what remains?

5. If William has seven peaches and gives three of them away, how many will he have left? Three from seven, and what remains?

6. If William has eight peaches and sells three, how many will he have left? Three from eight, and what remains?

7. If William has nine peaches and gives three of them to Charles, how many will he have left? Three from nine, and what remains?

8. If William has ten peaches and gives three to his mother, how many will he have left? Three from ten, and what remains? If he gives one to his mother, how many? If he gives two, how many?

Commit the following Table to memory :—

3 from 3 leaves 0	3 from 7 leaves 4
3 from 4 leaves 1	3 from 8 leaves 5
3 from 5 leaves 2	3 from 9 leaves 6
3 from 6 leaves 3	3 from 10 leaves 7

LESSON IV.

In which the Number Four is taken from each Number as far as Ten.

1. If Jane has four birds in a cage and takes them all out, how many will be left? Four from four, and what remains?

2. If Jane has five birds in a cage and takes out four, how many will be left? Four from five, and what remains?

3. If Jane has six birds in a cage and takes out four, how many will be left? Four from six, and what remains?

4. If Jane has seven birds in a cage and takes out four, how many will be left? Four from seven, and what remains?

5. If Jane has eight birds in a cage and takes out four, how many will be left? Four from eight, and what remains?

6. If Jane has nine birds in a cage and takes out four, how many will be left? Four from nine, and *what remains?*

7. If Jane has ten birds in a cage and takes out four how many will be left ? Four from ten, and what remains ?

Commit the following Table to memory:—

4 from 4 leaves 0
4 from 5 leaves 1
4 from 6 leaves 2
4 from 7 leaves 3

4 from 8 leaves 4
4 from 9 leaves 5
4 from 10 leaves 6
4 from 11 leaves 7

LESSON V.

In which the Number Five is taken from each Number as far as Ten.

1. Henry has five pears in a basket and gives them all to his sister : how many will be left ? Five from five, and what remains ?

2. If Henry has six pears in his basket and gives five to John, how many will be left ? Five from six, and what remains ?

3. If Henry has seven pears in his basket and gives five away, how many will be left ? Five from seven, and what remains ?

4. If Henry has eight pears in his basket and takes out five, how many will be left ? Five from eight, and what remains ?

5. If Henry has nine pears in his basket and James takes out five, how many will be left ? Five from nine, *and what remains ?*

6. If Henry has ten pears in his basket and William takes out five, how many will be left? Five from ten, and what remains?

Commit the following Table to memory:—

5 from 5 leaves 0	5 from 8 leaves 3
5 from 6 leaves 1	5 from 9 leaves 4
5 from 7 leaves 2	5 from 10 leaves 5

LESSON VI.

In which the Number Six is taken from each Number as far as Ten.

1. If James has six squirrels in a cage, and opens it and they all go out, how many will be left? Six from six, and what remains?

2. If James has seven squirrels in a cage and lets six out, how many will be left? Six from seven, and what remains?

3. If James has eight squirrels in a cage and lets out six, how many will be left? Six from eight, and what remains?

4. If James has nine squirrels in a cage and lets out six, how many will be left? Six from nine, and what remains?

5. If James has ten squirrels in a cage and lets out six, how many will be left? Six from ten, and what *remains*?

Commit the following Table to memory.—

6 from 6 leaves 0	6 from 9 leaves 3
6 from 7 leaves 1	6 from 10 leaves 4
6 from 8 leaves 2	6 from 11 leaves 5

LESSON VII.

In which the Number Seven is taken from each Number as far as Ten.

1. Mary has seven pins in her pincushion, and takes them all out: how many will be left? Seven from seven, and what remains?

2. If Mary has eight pins in her cushion and takes out seven, how many will be left? Seven from eight, and what remains?

3. If Mary has nine pins in her cushion and takes out seven, how many will be left? Seven from nine, and what remains?

4. If Mary has ten pins in her cushion and takes out seven, how many will be left? Seven from ten, and what remains?

Commit the following Table to memory:—

7 from 7 leaves 0	7 from 9 leaves 2
7 from 8 leaves 1	7 from 10 leaves 3

LESSON VIII.

In which the Number Eight is taken from each Number as far as Ten.

1. Reuben has eight plums and gives eight to his playmates: how many will he have left? Eight from eight, and what remains?

2. If Reuben has nine plums and gives eight to John, how many will be left? Eight from nine, and what remains?

3. If Reuben has ten plums and eats eight, how many will be left? Eight from ten, and what remains?

Commit the following Table to memory:—

8 from 8 leaves 0 8 from 9 leaves 1	8 from 10 leaves 2 8 from 11 leaves 3

LESSON IX.

In which the Number Nine is taken from each Number as far as Ten.

1. There are nine chairs in a room, and they are all taken out: how many are left? Nine from nine, and what remains?

2. If there are ten chairs and nine are taken out, how many are left? Nine from ten, and what remains?

Commit the following Table to memory:—

9 from 9 leaves 0	9 from 10 leaves 1

LESSON X.

In which the Number Ten is taken from Ten.

1. If there were ten candles burning, and they should all be put out, how many would still be burning? Ten from ten, and what remains?

Commit the following Table to memory:—

10 from 10 leaves 0	10 from 11 leaves 1

LESSON XI.

Examples in Subtraction.

1. Ten, less one, how many? Less two, how many? Less three, how many? Less four, how many? Less five, how many? Less six, how many? Less seven, how many? Less eight, how many? Less nine, how many? Less ten, how many?

2. Twenty, less one, how many? Less two, how many? Less three, how many? Less four, how many? Less five, how many? Less six, how many? Less seven, how many? Less eight, how many? Less nine, how many? Less ten, how many?

3. Thirty, less one, how many? Less two, how many? Less three, how many? Less four, how many? Less five, how many? Less six, how many? Less seven, how many? Less eight, how many? Less nine, how many? Less ten, how many?

4. Forty, less one, how many? Less two, how many? Less three, how many? Less four, how many? Less five, how many? Less six, how many? Less seven, how many? Less eight, how many? Less nine, how many? Less ten, how many?

5. Fifty, less one, how many? Less two, how many? Less three, how many? Less four, how many? Less five, how many? Less six, how many? Less seven, how many? Less eight, how many? Less nine, how many? Less ten, how many?

LESSON XII.

Examples in Subtraction.

1. Sixty, less one, how many? Sixty, less two, how many? Less three, how many? Less four, how many? Less five, how many? Less six, how many? Less seven, how many? Less eight, how many? Less nine, how many? Less ten, how many?

2. Seventy, less one, how many? Less two, how many? Less three, how many? Less four, how many? Less five, how many? Less six, how many? Less seven, how many? Less eight, how many? Less nine, how many? Less ten, how many?

3. Eighty, less one, how many? Less two, how many? Less three, how many? Less four, how many? Less five, how many? Less six, how many? Less seven, how many? Less eight, how many? Less nine, how many? Less ten, how many?

4. Ninety, less one, how many? Less two, how many? Less three, how many? Less four, how many? Less five, how many? Less six, how many? Less seven, how many? Less eight, how many? Less nine, how many? Less ten, how many?

5. One hundred, less one, how many? Less two, how many? Less three, how many? Less four, how many? Less five, how many? Less six, how many? Less seven, how many? Less eight, how many? Less nine, how many? Less ten, how many?

6. There are sixty-five pigeons in a flock, and John fires at them and kills nine: How many are left?

7. There are fifty-four sheep in a fold, and a wolf breaks in and kills seven: how many are left?

8. There are forty-nine scholars in a school, and ten of them are girls: how many boys are there?

9. In another school there are twenty scholars, and nine are boys: how many girls are there?

10. In Elizabeth's flower-bed there are thirty beautiful lilies, and John breaks off seven of them: how many are left?

11. James has thirty-seven cents: he spends six for candy, eight for a pencil, and twelve for a penknife how many has he left?

SECTION THIRD

LESSON I.

In which we Multiply by One.

1. If Charles buys an apple for one cent, what does it cost him? Once one is what?

2. If Charles buys two apples, at one cent each, what do they cost him? Once two is what?

3. If Charles buys three apples, at one cent each, what do they cost him? Once three is what?

4. If Charles buys four apples, at one cent each, what do they cost him? Once four is what?

5. If Charles buys five apples, at one cent each, what do they cost him? Once five is what?

6. If Charles buys six apples, at one cent each, what do they cost him? Once six is what?

7. If Charles buys seven apples, at one cent each, what do they cost? Once seven is what?

8. If Charles buys eight apples, at one cent each, what do they cost? Once eight is what?

9. If Charles buys nine apples, at one cent each, what do they cost? Once nine is what?

10. If Charles buys ten apples, at one cent each, what do they cost? Once ten is what?

Commit the following Table to memory:—

Once	1	is	1	Once	6	is	6
Once	2	is	2	Once	7	is	7
Once	3	is	3	Once	8	is	8
Once	4	is	4	Once	9	is	9
Once	5	is	5	Once	10	is	10

LESSON II.

In which we Multiply by Two.

1. If James buys one peach for two cents, what does it cost? Two times one are what?

2. If James buys two peaches, at two cents each, what do they cost? Two times two are what?

3. If James buys three peaches, at two cents each, what do they cost? Two times three are what?

4. If James buys four peaches, at two cents each, what do they cost? Two times four are what?

5. If James buys five peaches, at two cents each, what do they cost? Two times five are what?

6. If James buys six peaches, at two cents each, what do they cost? Two times six are what?

7. If James buys seven peaches, at two cents each, what do they cost? Two times seven are what?

8. If James buys eight peaches, at two cents each, what do they cost? Two times eight are what?

9. If James buys nine peaches, at two cents each, what do they cost? Two times nine are what?

10. If James buys ten peaches, at two cents each, what do they cost? Two times ten are what?

Commit the following Table to memory:—

2 times 1 are 2	2 times 6 are 12
2 times 2 are 4	2 times 7 are 14
2 times 3 are 6	2 times 8 are 16
2 times 4 are 8	2 times 9 are 18
2 times 5 are 10	2 times 10 are 20

LESSON III.

In which we Multiply by Three.

1. If John buys a lemon for three cents, what does it cost? Three times one are what?

2. If John buys two lemons, at three cents each, what do they cost? Three times two are what?

3. If John buys three lemons, at three cents each, what do they cost? Three times three are what?

4. If John buys four lemons, at three cents each, what do they cost? Three times four are what?

5. If John buys five lemons, at three cents each, what do they cost? Three times five are what?

6. If John buys six lemons, at three cents each, what do they cost? Three times six are what?

7. If John buys seven lemons, at three cents each, what do they cost? Three times seven are what?

8. If John buys eight lemons, at three cents each, what do they cost? Three times eight are what?

9. If John buys nine lemons, at three cents each, what do they cost? Three times nine are what?

10. If John buys ten lemons, at three cents each, what do they cost? Three times ten are what?

Commit the following Table to memory:—

3 times 1 are 3	3 times 6 are 18
3 times 2 are 6	3 times 7 are 21
3 times 3 are 9	3 times 8 are 24
3 times 4 are 12	3 times 9 are 27
3 times 5 are 15	3 times 10 are 30

LESSON IV.

In which we Multiply by Four.

1. If Henry buys one orange for four cents, what does it cost? Four times one are what?

2. If Henry buys two oranges, at four cents each, what do they cost? Four times two are what?

3. If Henry buys three oranges, at four cents each, what do they cost? Four times three are what?

4. If Henry buys four oranges, at four cents each, what do they cost? Four times four are what?

5. If Henry buys five oranges, at four cents each, what do they cost? Four times five are what?

6. If Henry buys six oranges, at four cents each, what do they cost? Four times six are what?

7. If Henry buys seven oranges, at four cents each, what do they cost? Four times seven are what?

8. If Henry buys eight oranges, at four cents each, what do they cost? Four times eight are what?

9. If Henry buys nine oranges, at four cents each, what do they cost? Four times nine are what?

10. If Henry buys ten oranges, at four cents each, what do they cost? Four times ten are what?

Commit the following Table to memory:—

4 times 1 are 4
4 times 2 are 8
4 times 3 are 12
4 times 4 are 16
4 times 5 are 20

4 times 6 are 24
4 times 7 are 28
4 times 8 are 32
4 times 9 are 36
4 times 10 are 40

LESSON V.

In which we Multiply by Five.

1. If William gives five cents for a top, what does 't cost? Five times one are what?

2. If William buys two tops, at five cents each, what do they cost him? Five times two are what?

3. If William buys three tops, at five cents each, what do they cost? Five times three are what?

4. If William buys four tops, at five cents each, what do they cost? Five times four are what?

5. If William buys five tops, at five cents each, what do they cost? Five times five are what?

6. If William buys six tops, at five cents each, what do they cost? Five times six are what?

7. If William buys seven tops, at five cents each, what do they cost? Five times seven are what?

8. If William buys eight tops, at five cents each, what do they cost? Five times eight are what?

9. If William buys nine tops, at five cents each, what do they cost? Five times nine are what?

10. If William buys ten tops, at five cents each, what do they cost? Five times ten are what?

Commit the following Table to memory:—

5 times 1 are 5	5 times 6 are 30
5 times 2 are 10	5 times 7 are 35
5 times 3 are 15	5 times 8 are 40
5 times 4 are 20	5 times 9 are 45
5 *times* 5 are 25	5 times 10 are 50

LESSON VI.

In which we Multiply by Six.

1. Jared buys one sheet of drawing-paper for six cents what does it cost him? Six times one are what?

2. If Jared buys two sheets, at six cents each, what do they cost? Six times two are what?

3. If Jared buys three sheets, at six cents each, what do they cost? Six times three are what?

4. If Jared buys four sheets, at six cents each, what do they cost? Six times four are what?

5. If Jared buys five sheets, at six cents each, what do they cost? Six times five are what?

6. If Jared buys six sheets, at six cents each, what do they cost? Six times six are what?

7. If Jared buys seven sheets, at six cents each, what do they cost? Six times seven are what?

8. If Jared buys eight sheets, at six cents each, what do they cost? Six times eight are what?

9. If Jared buys nine sheets, at six cents each, what do they cost? Six times nine are what?

10. If Jared buys ten sheets, at six cents each, what do they cost? Six times ten are what?

Commit the following Table to memory:—

6 times 1 are 6
6 times 2 are 12
6 times 3 are 18
6 times 4 are 24
6 times 5 are 30

6 times 6 are 36
6 times 7 are 42
6 times 8 are 48
6 times 9 are 54
6 times 10 are 60

LESSON VII.

In which we Multiply by Seven.

1. If Jane buys a thimble for seven cents, what does it cost? Seven times one are what?

2. If Jane buys two thimbles, at seven cents each, what do they cost? Seven times two are what?

3. If Jane buys three thimbles, at seven cents each, what do they cost? Seven times three are what?

4. If Jane buys four thimbles, at seven cents each, what do they cost? Seven times four are what?

5. If Jane buys five thimbles, at seven cents each, what do they cost? Seven times five are what?

6. If Jane buys six thimbles, at seven cents each, what do they cost? Seven times six are what?

7. If Jane buys seven thimbles, at seven cents each, what do they cost? Seven times seven are what?

8. If Jane buys eight thimbles, at seven cents each, what do they cost? Seven times eight are what?

9. If Jane buys nine thimbles, at seven cents each, what do they cost? Seven times nine are what?

10. If Jane buys ten thimbles, at seven cents each, what do they cost? Seven times ten are what?

Commit the following Table to memory:—

7 times 1 are 7
7 times 2 are 14
7 times 3 are 21
7 times 4 are 28
7 times 5 are 35
7 times 6 are 42
7 times 7 are 49
7 times 8 are 56
7 times 9 are 63
7 times 10 are 70

LESSON VIII.

In which we Multiply by Eight.

1. If Peter buys an inkstand for eight cents, what does it cost him? Eight times one are what?

2. If Peter buys two inkstands, at eight cents each, what do they cost? Eight times two are what?

3. If Peter buys three inkstands, at eight cents each, what do they cost? Eight times three are what?

4. If Peter buys four inkstands, at eight cents each, what do they cost? Eight times four are what?

5. If Peter buys five inkstands, at eight cents each, what do they cost? Eight times five are what?

6. If Peter buys six inks~~tands, at eight cen~~ts each, what do they cost? Eight times six are what?

7. If Peter buys seven inkstands, at eight cents each, what do they cost? Eight times seven are what?

8. If Peter buys eight inkstands, at eight cents each, what do they cost? Eight times eight are what?

9. If Peter buys nine inkstands, at eight cents each, what do they cost? Eight times nine are what?

10. If Peter buys ten inkstands, at eight cents each, what do they cost? Eight times ten are what?

Commit the following Table to memory:—

8 times 1 are 8	8 times 6 are 48
8 times 2 are 16	8 times 7 are 56
8 times 3 are 24	8 times 8 are 64
8 times 4 are 32	8 times 9 are 72
8 times 5 are 40	8 times 10 are 80

LESSON IX.

In which we Multiply by Nine.

1. If Henry gives nine cents for a box, what does it cost him? Nine times one are what?

2. If Henry buys two boxes, at nine cents each, what do they cost? Nine times two are what?

3. If Henry buys three boxes, at nine cents each, what do they cost? Nine times three are what?

4. If Henry buys four boxes, at nine cents each, what do they cost? Nine times four are what?

5. If Henry buys five boxes, at nine cents each, what do they cost? Nine times five are what?

6. If Henry buys six boxes, at nine cents each, what do they cost? Nine times six are what?

7. If Henry buys seven boxes, at nine cents each, what do they cost? Nine times seven are what?

8. If Henry buys eight boxes, at nine cents each, what do they cost? Nine times eight are what?

9. If Henry buys nine boxes, at nine cents each, what do they cost? Nine times nine are what?

10. If Henry buys ten boxes, at nine cents each, what do they cost? Nine times ten are what?

Commit the following Table to memory.

9 times 1 are 9	9 times 6 are 54
9 times 2 are 18	9 times 7 are 63
9 times 3 are 27	9 times 8 are 72
9 times 4 are 36	9 times 9 are 81
9 times 5 are 45	9 times 10 are 90

LESSON X.

In which we Multiply by Ten.

1. If Oliver gives ten cents for a knife, what does it cost ? Ten times one are what ?

2. If Oliver buys two knives, at ten cents each, what do they cost ? Ten times two are what ?

3. If Oliver buys three knives, at ten cents each, what do they cost ? Ten times three are what ?

4. If Oliver buys four knives, at ten cents each, what do they cost ? Ten times four are what ?

5. If Oliver buys five knives, at ten cents each, what do they cost ? Ten times five are what ?

6. If Oliver buys six knives, at ten cents each, what do they cost ? Ten times six are what ?

7. If Oliver buys seven knives, at ten cents each, what do they cost ? Ten times seven are what ?

8. If Oliver buys eight knives, at ten cents each, what do they cost ? Ten times eight are what ?

9. If Oliver buys nine knives, at ten cents each, what do they cost ? Ten times nine are what ?

10. If Oliver buys ten knives, at ten cents each, what do they cost ? Ten times ten are what ?

Commit the following Table to memory:—

10 times 1 are 10	10 times 6 are 60
10 times 2 are 20	10 times 7 are 70
10 times 3 are 30	10 times 8 are 80
10 times 4 are 40	10 times 9 are 90
10 times 5 are 50	10 times 10 are 100

LESSON IX.

In which we Multiply by Nine.

1. If Henry gives nine cents for a box, what does it cost him? Nine times one are what?

2. If Henry buys two boxes, at nine cents each, what do they cost? Nine times two are what?

3. If Henry buys three boxes, at nine cents each, what do they cost? Nine times three are what?

4. If Henry buys four boxes, at nine cents each, what do they cost? Nine times four are what?

5. If Henry buys five boxes, at nine cents each, what do they cost? Nine times five are what?

6. If Henry buys six boxes, at nine cents each, what do they cost? Nine times six are what?

7. If Henry buys seven boxes, at nine cents each, what do they cost? Nine times seven are what?

8. If Henry buys eight boxes, at nine cents each, what do they cost? Nine times eight are what?

9. If Henry buys nine boxes, at nine cents each, what do they cost? Nine times nine are what?

10. If Henry buys ten boxes, at nine cents each, what do they cost? Nine times ten are what?

Commit the following Table to memory.—

9 times 1 are 9
9 times 2 are 18
9 times 3 are 27
9 times 4 are 36
9 times 5 are 45

9 times 6 are 54
9 times 7 are 63
9 times 8 are 72
9 times 9 are 81
9 times 10 are 90

LESSON XII.

In which we Multiply by Twelve.

1. If Richard gives twelve cents for a knife, what does it cost him? Twelve times one are how many?

2. If Richard buys two knives, at twelve cents each, how much do they cost him? Twelve times two are how many?

3. If Richard buys three knives, at twelve cents each, how much do they cost him? Twelve times three are how many?

4. If Richard buys four knives, at twelve cents each, what do they cost him? Twelve times four are how many?

5. If Richard buys five knives, at twelve cents each, what do they cost him? Twelve times five are how many?

6. If Richard buys six knives, at twelve cents each, what do they cost him? Twelve times six are how many?

7. If Richard buys seven knives, at twelve cents each, what do they cost him? Twelve times seven are how many?

Commit the following table to memory:—

12 times 1 are 12	12 times 7 are 84
12 times 2 are 24	12 times 8 are 96
12 times 3 are 36	12 times 9 are 108
12 times 4 are 48	12 times 10 are 120
12 times 5 are 60	12 times 11 are 132
12 times 6 are 72	12 times 12 are 144

LESSON XIII.

Questions in Multiplication.

1. What will eight apples cost, at one cent apiece?

2. What will six oranges cost, at four cents apiece?

3. What will six lemons cost, at three cents apiece?

4. What will eight quills cost, at two cents apiece?

5. What will six spelling books cost, at twelve cents each?

6. What will ten sticks of candy cost, at two cents each?

7. A farmer bought nine sheep, at three dollars apiece: what did they cost?

8. A farmer bought two cows, at twenty dollars apiece: what did they both cost?

9. Mary has three rosebushes, and nine buds on each: how many buds on all?

10. If beef is nine cents a pound, what will be the cost of nine pounds?

11. If John can ride nine miles in one hour, how far can he ride in eight hours?

12. If Charles gives four cents for a yard of tape, how much must he pay for seven yards?

13. If Robert pays six cents for a top, how much must he pay for nine tops?

14. If a pound of sugar costs nine cents, what will seven pounds cost?

15. If one thimble costs seven cents, what will eight thimbles cost?

16. If one orange costs five cents, what will nine cost?

LESSON XIV.

Questions in Multiplication.

1. One is how many times one? Once one.

2. Two are how many times one? Two times one.

3. Three are how many times one? Three times.

4. Four are how many times one? How many times two?

5. Five are how many times one? Five times one.

6. Six are how many times one? How many times two? How many times three?

7. Seven are how many times one? Seven times.

8. Eight are how many times one? How many times two? How many times three? How many times four?

9. Nine are how many times one? How many times three?

10. Ten are how many times one? How many times two? How many times five?

11. Eleven are how many times one? Eleven times.

12. Twelve are how many times one? How many times two? How many times three? How many times four? How many times six?

13. Thirteen are how many times one?

14. Fourteen are how many times one? How many times two? How many times seven?

15. Fifteen are how many times one? How many times three? How many times five?

16. Sixteen are how many times one? How many times two? How many times four? How many times *eight?*

17. Seventeen are how many times one?

18. Eighteen are how many times one? How many times two? How many times three? How many times six? How many times nine?

19. Nineteen are how many times one?

20. Twenty are how many times one? How many times two? How many times four? How many times five? How many times ten?

LESSON XV.

Questions in Multiplication.

21. Twenty-one are how many times one? How many times three? How many times seven?

22. Twenty-two are how many times one? How many times two? How many times eleven?

23. Twenty-three are how many times one?

24. Twenty-four are how many times one? How many times two? How many times three? How many times four? How many times six? How many times eight? How many times twelve?

25. Twenty-five are how many times one? How many times five?

26. Twenty-six are how many times one? How many times two? How many times thirteen?

27. Twenty-seven are how many times one? How many times three? How many times nine?

28. Twenty-eight are how many times one? How many times two? How many times four? How many times seven? How many times fourteen?

29. Twenty-nine are how many times one?

30. Thirty are how many times one? How many times two? How many times three? How many times five? How many times six? How many times ten?

31. Thirty-one are how many times one?

32. Thirty-two are how many times one? How many times two? How many times four? How many times eight? How many times sixteen?

33. Thirty-three are how many times one?

34. Thirty-four are how many times one? How many times two? How many times seventeen?

35. Thirty-five are how many times one? How many times five? How many times seven?

LESSON XVI.

Questions on Multiplication.

36. Thirty-six are how many times one? How many times two? How many times three? How many times four? How many times six? How many times nine? How many times eighteen?

39. Thirty-nine are how many times one?

40. Forty are how many times one? How many times two? How many times four? How many times five? How many times eight? How many times ten? How many times twenty?

41. Forty-one are how many times one?

42. Forty-two are how many times one? How many times two? How many times three? How many times

six? How many times seven? How many times fourteen? How many times twenty-one?

43. Forty-three are how many times one?

44. Forty-four are how many times one? How many times two? How many times four? How many times eleven? How many times twenty-two?

45. Forty-five are how many times one? How many times three? How many times five? How many times nine? How many times fifteen?

46. Forty-six are how many times one? How many times two? How many times twenty-three?

47. Forty-seven are how many times one?

48. Forty-eight are how many times one? How many times two? How many times three? How many times four? How many times six? How many times eight? How many times twelve? How many times sixteen? How many times twenty-four?

49. Forty-nine are how many times one? How many times seven?

50. Fifty are how many times one? How many times two? How many times five? How many times ten? How many times twenty-five?

60. Sixty are how many times ten? How many times six? How many times twenty? How many times fifteen?

80. Eighty are how many times eight? How many times ten? How many times twenty? How many times forty?

100. One hundred are how many times ten? How many times twenty? How many times fifty?

LESSON XVII.

Questions on Multiplication.

1. Twenty-two are how many times eleven? Twenty-four are how many times twelve? Thirty-five are how many times eleven, and how many over? Thirty-eight are how many times twelve, and how many over?

2. Forty are how many times eleven, and how many over? How many times twelve, and how many over? Forty-eight are how many times eleven, and how many over? How many times twelve? Fifty-five are how many times eleven? How many times twelve, and how many over? Fifty-nine are how many times eleven, and how many over? How many times twelve, and how many over?

3. Sixty are how many times eleven, and how many over? How many times twelve, and how many over? Sixty-six are how many times eleven? How many times twelve, and how many over? Seventy-two are how many times eleven, and how many over? How many times twelve, and how many over?

4. Eighty are how many times eleven, and how many over? How many times twelve, and how many over? Eighty-four are how many times eleven, and how many over? How many times twelve? Eighty-seven are how many times eleven, and how many over? How many times twelve, and how many over?

5. Ninety are how many times eleven, and how many over? How many times twelve, and how many over? Ninety-four are how many times eleven, and how many over? How many times twelve, and how many over? Ninety-six are how many times eleven, and how many over? How many times twelve, and how many over?

LESSON XVIII.

Questions on Multiplication.

1. One hundred are how many times eleven, and how many over? How many times twelve, and how many over? One hundred and eight are how many times eleven, and how many over? How many times twelve, and how many over?

2. One hundred and twelve are how many times eleven, and how many over? How many times twelve, and how many over? One hundred and twenty are how many times eleven, and how many over? How many times twelve, and how many over?

3. One hundred and thirty are how many times eleven, and how many over? How many times twelve, and how many over? One hundred and thirty-one are how many times eleven, and how many over? How many times twelve, and how many over?

4. One hundred and forty are how many times eleven, and how many over? How many times twelve, and how many over?

MULTIPLICATION TABLE.

1	2	3	4	5	6	7	8	9	10	11	12
2	4	6	8	10	12	14	16	18	20	22	24
3	6	9	12	15	18	21	24	27	30	33	36
4	8	12	16	20	24	28	32	36	40	44	48
5	10	15	20	25	30	35	40	45	50	55	60
6	12	18	24	30	36	42	48	54	60	66	72
7	14	21	28	35	42	49	56	63	70	77	84
8	16	24	32	40	48	56	64	72	80	88	96
9	18	27	36	45	54	63	72	81	90	99	108
10	20	30	40	50	60	70	80	90	100	110	120
11	22	33	44	55	66	77	88	99	110	121	132
12	24	36	48	60	72	84	96	108	120	132	144

SECTION FOURTH.

LESSON I.

In which we Divide by Two.

1. How many two's are there in two? Two are contained in two, how many times?

2. How many two's are there in four? Two in four, how many times?

3. How many two's are there in six? Two in six, how many times?

4. How many two's are there in eight? Two in eight, how many times?

5. How many two's are there in ten? Two in ten, how many times?

6. How many two's are there in twelve? Two in twelve, how many times?

7. How many two's are there in fourteen? Two in fourteen, how many times?

8. How many two's are there in sixteen? Two in sixteen, how many times?

9. How many two's are there in eighteen? Two in eighteen, how many times?

10. How many two's are there in twenty? Two in twenty, how many times?

Commit the following Table to memory:—

2 in 2 once
2 in 4 two times
2 in 6 three times
2 in 8 four times
2 in 10 five times

2 in 12 six times
2 in 14 seven times
2 in 16 eight times
2 in 18 nine times
2 in 20 ten times

LESSON II.

Examples in the last Lesson.

1. William has eight apples, and divides them equally between two boys: how many does he give to each?

2. James has twelve peaches, and divides them equally between his two sisters: how many does he give to each?

3. Charles has a basket containing twenty pears, and divides them equally between his father and mother: how many does he give to each?

4. A father bought twenty-eight fish-hooks, and divided them between John and Charles: how many had each?

5. A mother has a dozen needles, and gives an equal number to Jane and Mary: how many will each have?

6. A lady having two parlors, bought twenty-four chairs, and put an equal number in each room: how many were there in each room?

7. If she had bought twenty-two chairs, how many would there have been in each room?

8. If she had bought eighteen chairs, how many would there have been in each room?

9. There are sixteen boys in a schoolroom, and but two benches: how many boys must sit on each bench?

10. If there were twenty-four boys, how many would sit on a bench?

11. If there were eighteen boys, how many would sit on a bench?

12. If there were fourteen boys, how many would sit on a bench?

13. If you have eight cents, and pay two cents apiece for apples, how many can you buy?

14. How many peaches, at two cents apiece, can you *buy for eighteen* cents?

LESSON III.

In which we Divide by Three.

1. How many three's are there in three? Three are contained in three, how many times?

2. How many three's are there in six? Three in six, how many times?

3. How many three's are there in nine? Three in nine, how many?

4. How many three's are there in twelve? Three in twelve, how many?

5. How many three's are there in fifteen? Three in fifteen, how many times?

6. How many three's are there in eighteen? Three in eighteen, how many times?

7. How many three's are there in twenty-one? Three in twenty-one, how many times?

8. How many three's are there in twenty-four? Three in twenty-four, how many times?

9. How many three's are there in twenty-seven? Three in twenty-seven, how many times?

Commit the following Table to memory:—

3 in 3 once
3 in 6 two times
3 in 9 three times
3 in 12 four times
3 in 15 five times
3 in 18 six times
3 in 21 seven times
3 in 24 eight times
3 in 27 nine times
3 in 30 ten times

LESSON IV.

Examples in the last Lesson.

1. A father buys three penknives, and divides them equally between his three sons: how many does he give to each?

2. At three cents apiece, how many oranges can you buy for nine cents?

9. How many can you buy for twelve cents?

4. How many can you buy for thirty cents?

5. How many can you buy for twenty-eight cents?

6. A boy has twelve cents, and finds that he must give three cents apiece for tops: how many can he buy?

7. If he has twenty-one cents, how many can he buy?

8. If he has twenty-four cents, how many can he buy?

9. There are fifteen girls in a school, and three benches: how many must sit on each bench?

10. If there were eighteen girls in the school, how many would have to sit on each bench?

11. If there were twenty-four, how many would have to sit on each bench?

12. If there were thirty, how many would have to sit on each bench?

13. If you write three lines every day, how many days will it take to write twenty-seven lines?

14. How many days will it take to write twenty-one lines?

15. How many days will it take to write twenty-four lines?

16. How many days to write fifteen lines?

LESSON V.

In which we Divide by Four.

1. How many four's are there in four? Four are contained in four, how many times?

2. How many four's are there in eight? Four in eight, how many times?

3. How many four's are there in twelve? Four in twelve, how many times?

4. How many four's are there in sixteen? Four in sixteen, how many times?

5. How many four's are there in twenty? Four in twenty, how many times?

6. How many four's are there in twenty-four? Four in twenty-four, how many times?

7. How many four's are there in twenty-eight? Four in twenty-eight, how many times?

8. How many four's are there in thirty-two? Four in thirty-two, how many times?

9. How many four's are there in thirty-six? Four in thirty-six, how many times?

10. How many four's are there in forty? Four in forty, how many times?

Commit the following Table to memory:—

4 in 4 once	4 in 24 six times
4 in 8 two times	4 in 28 seven times
4 in 12 three times	4 in 32 eight times
4 in 16 four times	4 in 36 nine times
4 in 20 five times	4 in 40 ten times

LESSON VI.

Examples in the last Lesson.

1. If four apples be equally divided between two boys, how many will each have?

2. At four cents apiece, how many oranges can you buy for eight cents?

3. At four cents apiece, how many oranges can you buy for sixteen cents?

4. If it takes four sheets of paper for a book, how many books will twenty sheets make?

5. How many will twenty-eight sheets make?

6. How many will thirty-two sheets make?

7. How many will thirty-six sheets make?

8. How many will forty sheets make?

9. There are four benches in a schoolroom, and twenty scholars: how many must sit on each bench?

10. If there be twenty-four scholars, how many must sit on each bench?

11. If there be thirty-two scholars, how many must sit on each bench?

12. If there be thirty-six scholars, how many must sit on each bench?

13. If John pays four cents for one top, how many tops will he buy for twelve cents?

14. How many will he buy for sixteen cents?

15. How many will he buy for twenty cents?

16. How many will he buy for twenty-eight cents?

17. How many will he buy for forty cents?

18. If Charles gives four cents a quart for chestnuts, how many will he buy for eight cents?

19. How many for sixteen cents?

20. *How many* for thirty-six cents?

LESSON VII.

In which we Divide by Five.

1. How many five's are there in five? Five are contained in five, how many times?

2. How many five's are there in ten? Five in ten, how many times?

3. How many five's are there in fifteen? Five in fifteen, how many times?

4. How many five's are there in twenty? Five in twenty, how many times?

5. How many five's are there in twenty-five? Five in twenty-five, how many times?

6. How many five's are there in thirty? Five in thirty, how many times?

7. How many five's are there in thirty-five? Five in thirty-five, how many times?

8. How many five's are there in forty? Five in forty, how many times?

9. How many five's are there in forty-five? Five in forty-five, how many times?

10. How many five's are there in fifty? Five in fifty, how many times?

Commit the following Table to memory:—

5 in 5 once	5 in 30 six times
5 in 10 two times	5 in 35 seven times
5 in 15 three times	5 in 40 eight times
5 in 20 four times	5 in 45 nine times
5 in 25 five times	5 in 50 ten times

LESSON VIII.

Examples in the last Lesson.

1. In a schoolhouse there are five benches and twenty scholars: how many must sit on a bench?

2. If there are twenty-five scholars, how many must sit on a bench?

3. If there are thirty, how many would there sit on a bench?

4. If cloth is five dollars a yard, how many yards can be purchased for ten dollars?

5. How much can be purchased for twenty dollars?

6. How many yards can be purchased for thirty dollars?

7. How many yards can be purchased for forty dollars?

8. How many yards can be purchased for fifty dollars?

9. If flour is five dollars a barrel, how many barrels can be purchased for fifteen dollars?

10. How many barrels can be purchased for twenty dollars?

11. How many barrels for twenty-five dollars?

12. How many barrels for thirty dollars?

13. If tape is five cents a bunch, how many bunches can be bought for twenty cents?

14. How many bunches can be bought for fifty cents?

15. How many bunches can be bought for forty-five cents?

16. If five sheets of paper make a copy-book, how many books will twenty sheets make?

17 *How many books* will thirty sheets make?

LESSON IX.

In which we Divide by Six.

1. How many sixes are there in six? Six are contained in six, how many times?

2. How many sixes are there in twelve? Six in twelve, how many times?

3. How many sixes in eighteen? Six in eighteen, how many times?

4. How many sixes in twenty-four? Six in twenty four, how many times?

5. How many sixes in thirty? Six in thirty, how many times?

6. How many sixes in thirty-six? Six in thirty-six, how many times?

7. How many sixes in forty-two? Six in forty-two, how many times?

8. How many sixes in forty-eight? Six in forty-eight, how many times?

9. How many sixes in fifty-four? Six in fifty-four, how many times?

10. How many sixes in sixty? Six in sixty, how many times?

Commit the following Table to memory:—

6 in 6 once	6 in 36 six times
6 in 12 two times	6 in 42 seven times
6 in 18 three times	6 in 48 eight times
6 in 24 four times	6 in 54 nine times
6 in 30 five times	6 in 60 ten times

LESSON X.

Examples in the last Lesson.

1. If six sheets of paper make a copy-book, how many books will twelve sheets make?

2. How many books will twenty-four sheets make?

3. How many books will thirty sheets make?

4. How many books will forty-eight sheets make?

5. How many books will sixty sheets make?

6. If one yard of broadcloth costs six dollars, how many yards can be bought for thirty dollars?

7. How many yards can be bought for thirty-six dollars?

8. How many yards for forty-two dollars?

9. How many yards for fifty-four dollars?

10. How many for sixty dollars?

11. If a man travels six miles in one hour, how many hours will it take him to travel twelve miles?

12. How many hours will it take him to travel twenty-four miles?

13. How long will it take him to travel thirty miles?

14. How long to travel fifty-four miles?

15. How long to travel sixty miles?

16. Forty-two apples are divided equally among six boys: how many does each one receive?

17. If fifty-four peaches be divided equally between six boys, how many will each receive?

18. If a yard of ribbon costs six cents, how many yards can be bought for twenty-four cents?

19. *How many* for thirty cents?

LESSON XI.

In which we Divide by Seven.

1. How many sevens are there in seven? Seven are contained in seven, how many times?

2. How many sevens are there in fourteen? Seven in fourteen, how many times?

3. How many sevens are there in twenty-one? Seven in twenty-one, how many times?

4. How many sevens are there in twenty-eight? Seven in twenty-eight, how many times?

5. How many sevens are there in thirty-five? Seven in thirty-five, how many times?

6. How many sevens are there in forty-two? Seven in forty-two, how many times?

7. How many sevens are there in forty-nine? Seven in forty-nine, how many times?

8. How many sevens are there in fifty-six? Seven in fifty-six, how many times?

9. How many sevens are there in sixty-three? Seven in sixty-three, how many times?

10. How many sevens are there in seventy? Seven in seventy, how many times?

Commit the following Table to memory:—

7	in	7	once
7	in	14	two times
7	in	21	three times
7	in	28	four times
7	in	35	five times
7	in	42	six times
7	in	49	seven times
7	in	56	eight times
7	in	63	nine times
7	in	70	ten times

LESSON XII.

Examples in the last Lesson.

1. If a man earns seven dollars in one week, how many weeks would it take him to earn thirty-five dollars?

2. How many weeks to earn fifty-six dollars?

3. How many weeks to earn sixty-three dollars?

4. How many weeks to earn seventy dollars?

5. If you wish to pack seventy pounds of butter in seven boxes, how much would you put in each box?

6. If you pack but forty-two pounds, how much would you put in each box?

7. If you pack fifty-six pounds, how much in a box?

8. If you pack thirty-five pounds, how much in a box?

9. If you pack twenty-eight pounds, how much in a box?

10. If you pack but fourteen pounds, how much in a box?

11. A man agrees to pay seven cents a mile for riding in a stage-coach; at the end of the route he pays seventy cents: how many miles did he ride?

12. If he had paid twenty-one cents, how far would he have rode?

13. If he had paid thirty-five cents, how far would he have rode?

14. If he had paid fifty-six cents, how far would he have rode?

15. If he had paid forty-two cents, how far would he have rode?

16 *If he had* paid sixty-three cents, how far?

LESSON XIII.

In which we Divide by Eight.

1. How many eights are there in eight? Eight are contained in eight, how many times?

2. How many eights are there in sixteen? Eight in sixteen, how many times?

3. How many eights are there in twenty-four? Eight in twenty-four, how many times?

4. How many eights are there in thirty-two? Eight in thirty-two, how many times?

5. How many eights are there in forty? Eight in forty, how many times?

6. How many eights are there in forty-eight? Eight in forty-eight, how many times?

7. How many eights are there in fifty-six? Eight in fifty-six, how many times?

8. How many eights are there in sixty-four? Eight in sixty-four, how many times?

9. How many eights are there in seventy-two? Eight in seventy-two, how many times?

10. How many eights are there in eighty? Eight in eighty, how many times?

Commit the following Table to memory:—

8	in	8	once		8	in	48	six times	
8	in	16	two times		8	in	56	seven times	
8	in	24	three times		8	in	64	eight times	
8	in	32	four times		8	in	72	nine times	
8	in	40	five times		8	in	80	ten times	

LESSON XIV.

Examples in the last Lesson.

1. If a yard of broadcloth costs eight dollars, how many yards can you buy for sixteen dollars?

2. How many yards can you buy for sixty-four dollars?

3. How many yards can you buy for fifty-six dollars?

4. How many yards can you buy for eighty dollars?

5. How many yards can you buy for forty-eight dollars?

6. How many yards can you buy for twenty-four dollars?

7. How many yards can you buy for seventy-two dollars?

8. If Mary gives eight cents for a bunch of tape, how many bunches can she buy for sixteen cents?

9. How many can she buy for thirty-two cents?

10. How many can she buy for fifty-six cents?

11. How many can she buy for sixty-four cents?

12. How many can she buy for eighty cents?

13. How many can she buy for seventy-two cents?

14. How many can she buy for twenty-four cents?

15. If James pays eight cents for a top, how many tops can he buy for thirty-two cents?

16. How many can he buy for seventy-two cents?

17. How many can he buy for fifty-six cents?

18. How many can he buy for forty-eight cents?

16. How many can he buy for twenty-four cents?

LESSON XV.

In which we Divide by Nine.

1. How many nines are there in nine? Nine in nine, how many times?

2. How many nines are there in eighteen? Nine in eighteen, how many times?

3. How many nines are there in twenty-seven? Nine in twenty-seven, how many times?

4. How many nines are there in thirty-six? Nine in thirty-six, how many times?

5. How many nines are there in forty-five? Nine in forty-five, how many times?

6. How many nines are there in fifty-four? Nine in fifty-four, how many times?

7. How many nines are there in sixty-three? Nine in sixty-three, how many times?

8. How many nines are there in seventy-two? Nine in seventy-two, how many times?

9. How many nines are there in eighty-one? Nine in eighty-one, how many times?

10. How many nines are there in ninety? Nine in ninety, how many times?

Commit the following Table to memory:—

9 in 9 once
9 in 18 two times
9 in 27 three times
9 in 36 four times
9 in 45 five times
9 in 54 six times
9 in 63 seven times
9 in 72 eight times
9 in 81 nine times
9 in 90 ten times

LESSON XVI.

Examples in the last Lesson.

1. If one yard of cotton cloth costs nine cents, how many yards can be bought for twenty-seven cents?

2. How many yards can be bought for fifty-four cents?

3. How many yards can be bought for seventy-two cents?

4. How many yards can be bought for eighty-one cents?

5. How many yards could be bought for ninety cents?

6. If James pays nine cents for a pencil, how many pencils could he buy for twenty-seven cents?

7. How many could he buy for thirty-six cents?

8. How many could he buy for sixty-three cents?

9. How many could he buy for seventy-two cents?

10. How many could he buy for eighty-one cents?

11. If Mary pays nine cents for a slate, how many slates could she buy for forty-five cents?

12. How many could she buy for eighty-one cents?

13. How many could she buy for ninety cents?

14. How many could she buy for forty-five cents?

15. How many could she buy for twenty-seven cents?

16. If a yard of broadcloth costs nine dollars, how many yards can be bought for thirty-six dollars?

17. How many can be bought for forty-five dollars?

18. How many can be bought for fifty-four dollars?

19. How many can be bought for eighty-one dollars?

20. How many can be bought for ninety dollars?

LESSON XVII.

In which we Divide by Ten.

1 How many tens are there in ten? Ten are contained in ten, how many times?

2. How many tens are there in twenty? Ten in twenty, how many times?

3. How many tens are there in thirty? Ten in thirty, how many times?

4. How many tens are there in forty? Ten in forty, how many times?

5. How many tens are there in fifty? Ten in fifty, how many times?

6. How many tens are there in sixty? Ten in sixty, how many times?

7. How many tens are there in seventy? Ten in seventy, how many times?

8. How many tens are there in eighty? Ten in eighty, how many times?

9. How many tens are there in ninety? Ten in ninety, how many times?

10. How many tens are there in one hundred? Ten in one hundred, how many times?

Commit the following Table to memory:—

10	in	10	once	10	in	60	six times
10	in	20	two times	10	in	70	seven times
10	in	30	three times	10	in	80	eight times
10	in	40	four times	10	in	90	nine times
10	*in*	*50*	five times	10	in	100	ten times

LESSON XVIII.

Examples in the last Lesson.

1. In an orchard there are twenty trees in rows, and ten trees in each row: how many rows are there?

2. If there were thirty, how many rows would there be?

3. If there were fifty trees, how many rows would there be?

4. If there were seventy trees, how many rows would there be?

5. If there were ninety trees, how many rows would there be?

6. If there were eighty trees, how many rows would there be?

7. A merchant bought flour at ten dollars a barrel; he laid out ninety dollars: how many barrels did he buy?

8. If he had laid out one hundred dollars, how many barrels would he have bought?

9. If he had laid out twenty dollars, how many barrels would he have bought?

10. If he had laid out sixty dollars, how many barrels would he have bought?

11. If he had laid out ninety dollars, how many barrels would he have bought?

12. If he had laid out eighty dollars, how many barrels would he have bought?

13. A teacher paid one dollar for premiums, at ten cents apiece: how many did he buy?

14. How many could he have bought for ninety cents?

15. How many could he have bought for sixty cents?

LESSON XIX.

In which we Divide by Eleven.

1. How many elevens are there in eleven? Eleven is contained in eleven, how many times?

2. How many elevens are there in twenty-two? Eleven in twenty-two, how many times?

3. How many elevens in thirty-three? Eleven in thirty-three, how many times?

4. How many elevens in forty-four? Eleven in forty-four, how many times?

5. How many elevens in fifty-five? Eleven in fifty-five, how many times?

6. How many elevens in sixty-six? Eleven in sixty-six, how many times?

7. How many elevens in seventy-seven? Eleven in seventy-seven, how many times?

8. How many elevens in eighty-eight? Eleven in eighty-eight, how many times?

9. How many elevens in ninety-nine? Eleven in ninety-nine, how many times?

Commit the following table to memory:—

11	in	11	once	11	in	77	seven times
11	in	22	two times	11	in	88	eight times
11	in	33	three times	11	in	99	nine times
11	in	44	four times	11	in	110	ten times
11	in	55	five times	11	in	121	eleven times
11	in	66	six times	11	in	132	twelve times

LESSON XX.

Examples in the last Lesson.

1. James bought pine apples at eleven cents apiece; he paid twenty-two cents for them: how many did he buy?

2. John has forty-four toys, and puts them in rows of eleven each: how many rows has he?

3. If he has sixty-six, how many rows would he have?

4. A merchant bought coffee at eleven cents a pound, and laid out ninety-nine cents: how many pounds did he buy?

5. If he buys flour at eleven dollars a barrel, and expends one hundred and ten dollars: how many barrels will he buy?

6. How many barrels would he buy with one hundred and thirty-two dollars? How many with seventy-seven dollars? How many with forty-four dollars?

7. A grocer buys fish at eleven cents each, and pays twenty-two cents: how many does he buy? How many would he buy with sixty-six cents? How many with seventy-seven cents? How many with ninety-nine cents?

8. How many pounds of coffee could you buy with sixty-six cents, at eleven cents a pound? How many pounds could you buy with seventy-seven cents? How many with eighty-eight cents? How many with thirty-three?

9. How many penknives, at eleven cents each, can James buy with ninety-nine cents? How many with eighty-eight? How many with eleven? How many with twenty-two?

LESSON XXI.

In which we Divide by Twelve.

1. How many twelves are there in twelve? Twelve is contained in twelve, how many times?

2. How many twelves in twenty-four? Twelve in twenty-four, how many times?

3. How many twelves in thirty-six? Twelve in thirty-six, how many times?

4. How many twelves in forty-eight? Twelve in forty-eight, how many times?

5. How many twelves in sixty? Twelve in sixty, how many times?

6. How many twelves in seventy-two? Twelve in seventy-two, how many times?

7. How many twelves in eighty-four? Twelve in eighty-four, how many times?

8. How many twelves in ninety-six? Twelve in ninety-six, how many times?

9. How many twelves in one hundred and eight? Twelve in one hundred and eight, how many times?

Commit the following table to memory:—

12 in 12 once
12 in 24 two times
12 in 36 three times
12 in 48 four times
12 in 60 five times
12 in 72 six times
12 in 84 seven times
12 in 96 eight times
12 in 108 nine times
12 in 120 ten times
12 in 132 eleven times
12 in 144 twelve times

LESSON XXII.

Examples in the last Lesson.

1. James bought twelve apples, for which he paid twelve cents: how much did he pay for each? Had he paid twenty-four cents for them, how much would he have paid for each? Had he paid thirty-six cents, how much would he have paid for each? Had he paid forty-eight cents, how much would he have paid for each?

2. A merchant paid twenty-four dollars for twelve yards of cloth, what did each yard cost him? Had he paid sixty dollars for it, what would each yard have cost him? Had he paid one hundred and eight dollars, what would each yard have cost him?

3. A teacher purchased twelve slates for his school, for which he paid one hundred and forty-four cents: how much did each cost him? Had he paid one hundred and thirty-two cents, how much would each have cost him? Had he paid one hundred and twenty cents, how much would each have cost him? Had he paid eighty-four cents, how much would each have cost him?

4. John bought twelve oranges for forty-eight cents, what did they cost him apiece? Had he paid sixty cents for them, what would they have cost him apiece? Had he paid seventy-two cents, what would they have cost him? Had he paid ninety-six cents, what would they have cost him? Had he paid one hundred and eight cents, what would they have cost him?

LESSON XXIII.

Examples in Division.

1. Two in five, how many times, and what over?
2. Two in seven, how many times, and what over?
3. Four in fifteen, how many times, and what over?
4. Five in nineteen, how many times, and what over?
5. Six in seven, how many times, and what over?
6. Eight in twelve, how many times, and what over?
7. Nine in fourteen, how many times, and what over?
8. Six in fifteen, how many times, and what over?
9. Ten in forty-six, how many times, and what over?
10. Four in thirty, how many times, and what over?
11. Eight in fifty, how many times, and what over?
12. The number over, is called a *remainder*.
13. Eight in seventeen, how many times, and what remainder?
14. Nine in forty, how many times, and what remainder?
15. Seven in fifty, how many times, and what remainder?
16. Five in forty, how many times, and what remainder?
17. Five in thirty, how many times, and what remainder?
18. Nine in sixty, how many times, and what remainder?
19. Six in forty, how many times, and what remainder?

20. Nine in eighty, how many times, and what remainder?

21. Eight in sixty, how many times, and what remainder?

22. Seven in fifty-six, how many times, and what remainder?

23. Eight in sixty-four, how many times, and what remainder?

24. Nine in fifty, how many times, and what remainder?

25. Six in fifty, how many times, and what remainder?

26. Four in twenty-five, how many times, and what remainder?

LESSON XXIV.

Examples in Division.

1. Eight in fifty-eight, how many times, and what remainder?

2. Nine in eighty-eight, how many times, and what remainder?

3. Nine in sixty-three, how many times, and what remainder?

4. Seven in fifty-five, how many times, and what remainder.

5. Seven in forty-nine, how many times, and what remainder?

6. Nine in forty, how many times, and what remainder?

7. Ten in ninety-nine, how many times, and what remainder?

8. Eight in fifty-one, how many times, and what remainder?

9. Six in fifty-nine, how many times, and what remainder?

10. Ten in eighty-nine, how many times, and what remainder?

11. Four in thirty-nine, how many times, and what remainder?

12. Five in forty-one, how many times, and what remainder?

13. Six in seventeen, how many times, and what remainder?

14. Nine in forty-seven, how many times, and what remainder.

15. Eight in fifty-four, how many times, and what remainder?

16. Nine in seventy-two, how many times, and what remainder?

17. Five in fifty, how many times, and what remainder?

18. Six in forty-eight, how many times, and what remainder?

19. Three in twenty-nine, how many times, and what remainder?

20. Eight in seventy-six, how many times, and what remainder?

21. Seven in nineteen, how many times, and what remainder?

LESSON XXV.

Examples in Division.

1. Charles being asked how many scholars there were in school, thought he would be a little smart, and counted their eyes, and answered that there were fifty eyes: how many scholars were there?

2. James went out fishing, and caught eighty fish; he could place only eight upon a string: how many strings did he want to hold them all?

3. In coming home, James had nine miles to travel; he could walk only three miles an hour: how long would it take him?

4. James Smart asked the master how long it would take Solomon Lazy to do the twenty sums in addition, as he only did four in an hour: what should the master answer?

5. A farmer received twenty-eight dollars for seven sheep: how much was that for each sheep?

6. It is thirty-four miles from New Haven to Hartford: how long will it take a man to walk from one place to the other, if he travels four miles an hour?

7. If forty-nine boys are placed on seven seats, how many are there on each seat?

8. Eight boys put their money together, and buy forty apples: if equally divided, how many will each have?

9. A sportsman killed four birds every time he fired; he killed, *in all*, eight: how many shots did he make?

10. James is to learn forty-two verses of Scripture in a week: how many must he learn each day?

11. A farmer sold nine cheeses for thirty-six dollars: how much did he get apiece?

12. James planted forty-eight kernels of corn, and put four in each hill: how many hills had he?

13. John has forty good marks after going to school for eight weeks: if he behaved equally well all the time, how many did he get each week?

14. If six yards of cloth cost twelve dollars, how much is that for each yard?

15. If four yards cost sixteen dollars, how much is it a yard?

16. If eight oranges cost thirty-two cents, how much does one orange cost?

17. If nine oranges cost fifty-four cents, how much does one orange cost?

18. How many reams of paper, at four dollars a ream, can you buy for thirty-six dollars?

19. How much for thirty-two dollars?

20. How much for sixteen dollars?

21. Four men bought a pair of oxen for one hundred dollars, and sold them again for eighty-four: how much did each one lose?

22. A man has forty-two dollars, which he lays out in wood, at six dollars a cord: how many cords does he buy?

23. A man has sixty-four pounds of butter, and wishes to divide it equally among eight boxes: how much must he put in each box?

SECTION FIFTH.

FRACTIONS.

LESSON I.

Of the Fraction One Half.

1. If an apple be divided into two equal parts, each part is called a half.

2. How many halves are there in one apple?

3. If a pear be divided into two equal parts, what is each part called?

4. How many halves are there in a pear?

5. How many halves are there in one? In one and a half, how many?

6. How many halves are there in two pears? In two and a half, how many?

7. How many halves are there in three things? In three and a half, how many?

8. How many halves are there in four? In four and a half, how many?

9. How many halves are there in five? In five and a half, how many?

10. How many halves are there in six? In six and a half, how many?

11. How many halves are there in seven? In seven and a half, how many?

12. How many halves in eight? In eight and a half?

13. How many halves in nine? In nine and a half?

14. How many halves in ten? In ten and a half?

LESSON II.

Questions about Halves.

1. How many whole apples are there in two halves?
2. How many whole apples are there in four halves?
3. How many apples are there in five halves?
4. How many apples in six halves?
5. How many whole ones in twelve halves?
6. How many whole ones in twenty halves?
7. How many whole things in eighteen halves?
8. How many whole things in sixteen halves?
9. How many whole things in fifteen halves?
10. How many whole things in nine halves?
11. How many whole things in seven halves?
12. How many whole things in three halves?
13. How many whole things in ten halves?
14. How many whole things in thirteen halves?
15. How many whole things in seventeen halves?
16. How many whole things in eleven halves?
17. How many whole things in twenty-four halves?
18. How many whole things in thirty halves?
19. How many whole things in forty halves?
20. How many whole things in fifty halves?
21. How many whole things in sixty halves?
22. How many whole things in eighty halves?
23. How many whole things in ninety halves?
24. How many whole things in one hundred halves?
25. How many whole things in two hundred halves?
26. How many whole things in three hundred halves?
27. How many whole things in four hundred halves?
28. *How many* whole things in five hundred halves?

LESSON III.

Of the Fraction One Third.

1. If an apple be divided into three equal parts, each part is called one third.

2. How many thirds are there in one apple?

3. How many thirds are there in one?

4. How many thirds are there in two? In two and one third?

5. How many thirds are there in three? In three and two thirds? In three and one third?

6. How many thirds are there in four? In four and one third? In four and two thirds?

7. How many thirds are there in five? In five and two thirds? In five and one third?

8. How many thirds are there in six? In six and one third? In six and two thirds?

9. How many thirds are there in seven? In seven and one third? In seven and two thirds?

10. How many thirds are there in eight? In eight and one third? In eight and two thirds?

11. How many thirds are there in nine? In nine and one third? In nine and two thirds?

12. How many thirds are there in ten? In ten and two thirds?

13. How many thirds are there in eleven? In eleven and two thirds?

14. How many thirds are there in twelve? In twelve and *one third?*

LESSON IV.

Questions about Thirds.

1. How many whole things are there in three thirds?

2. How many whole things in five thirds?

3. How many whole things in six thirds? In eight thirds? In nine thirds?

4. How many whole things in twelve thirds? In fourteen thirds? In thirteen thirds?

5. How many whole things in fifteen thirds? In sixteen thirds? In seventeen thirds?

6. How many whole things are there in eighteen thirds? In nineteen thirds? In twenty thirds?

7. How many whole things are there in twenty-one thirds? In twenty-two thirds? In twenty-three thirds?

8. How many whole things are there in twenty-four thirds? In twenty-five thirds? In twenty-six thirds?

9. How many whole things are there in twenty-seven thirds? In twenty-eight thirds? In twenty-nine thirds?

10. How many whole things are there in thirty thirds? In thirty-one thirds? In thirty-two thirds?

11. How many whole things in sixty thirds?

12. How many whole things in three hundred thirds?

13. If one third of an orange costs one cent, what will the whole orange cost? What will two oranges cost?

14. If one third of a yard of cloth cost two dollars, what will three yards cost?

15. If one third of a barrel of flour cost two dollars what will six barrels cost?

LESSON V.

Of the Fraction One Fourth.

1. If an apple be divided into four equal parts, each part is called one fourth.

2. How many fourths are there in one thing? How many fourths are there in one half?

3. How many fourths are there in one and one half?

4. How many fourths are there in two? In two and one fourth? In two and one half?

5. How many fourths are there in three? In three and one half? In three and one fourth?

6. How many fourths are there in four? In four and one fourth? In four and one half?

7. How many fourths are there in five? In five and one fourth? In five and one half?

8. How many fourths are there in six? In six and one half? In six and three fourths?

9. How many fourths are there in seven? In seven and one half? In seven and three fourths?

10. How many fourths are there in eight? In eight and one fourth? In eight and one half? In eight and three fourths?

11. How many fourths are there in nine? In nine and one fourth? In nine and two fourths? In nine and three fourths?

12. How many fourths are there in ten? In ten and one fourth? In ten and one half? In ten and three fourths?

LESSON VI.

Questions about One Fourth.

1. How many whole things are there in four fourths? How many in five fourths? In six fourths? In seven fourths?

2. How many whole things in eight fourths? In nine fourths? In ten fourths? In eleven fourths?

3. How many whole things are there in twelve fourths? In thirteen fourths? In fourteen fourths? In fifteen fourths?

4. How many whole things are there in sixteen fourths? In seventeen fourths? In eighteen fourths? In nineteen fourths?

5. How many whole things are there in twenty fourths? In twenty-one fourths? In twenty-two fourths? In twenty-three fourths?

6. How many whole things are there in twenty-four fourths? In twenty-five fourths? In twenty-six fourths? In twenty-seven fourths?

7. How many whole things are there in twenty-eight fourths? In twenty-nine? In thirty? In thirty-one?

8. How many whole things are there in thirty-two fourths? In thirty-three fourths? In thirty-four fourths? In thirty-five fourths?

9. How many whole things are there in thirty-six fourths? In thirty-seven? In thirty-eight? In thirty-nine?

10. If one fourth of a barrel of flour cost two dollars, how much will one barrel cost?

11. If three fourths of a yard of cloth cost six dollars, how much will two yards cost?

LESSON VII.

Of the Fraction One Fifth.

1. If an apple be divided into five equal parts, each part is called one fifth.

2. How many fifths are there in one apple? How many fifths in one thing?

3. How many fifths are there in two? In two and one fifth? In two and two fifths? In two and three fifths?

4. How many fifths are there in three? In three and one fifth? In three and two fifths? In three and four fifths?

5. How many fifths are there in four? In four and one fifth? In four and two fifths? In four and three fifths?

6. How many fifths are there in five? In five and three fifths? In five and one fifth? In five and four fifths?

7. How many fifths are there are in six? In six and one fifth? In six and two fifths? In six and four fifths?

8. How many fifths are there in seven? In seven and one fifth? In seven and two fifths? In seven and three fifths? In seven and four fifths?

9. How many fifths are there in eight?. In eight and two fifths? In eight and three fifths? In eight and one fifth?

10. How many fifths are there in nine? In nine and one fifth? In nine and three fifths? In nine and four fifths?

11. How many fifths are there in ten? In ten and one fifth? In ten and three fifths? In ten and four fifths?

LESSON VIII.

Questions about Fifths.

1. How many whole apples are equal to five fifths of an apple? How many whole things in five fifths?

2. How many whole things in ten fifths? In twelve fifths? In fourteen fifths? In eleven fifths?

3. How many whole things are there in fifteen fifths? In sixteen fifths? In seventeen? In eighteen fifths?

4. How many whole things are there in twenty fifths? In twenty-one fifths? In twenty-two fifths? In twenty-four fifths?

5. How many whole things are there in twenty-five fifths? In twenty-six fifths? In twenty-seven fifths? In twenty-eight fifths?

6. How many whole things are there in thirty fifths? In thirty-three fifths? In thirty-four fifths?

7. How many whole things are there in thirty-five fifths? In thirty-six? In thirty-seven? In thirty-eight? In thirty-nine?

8. How many whole things are there in forty fifths? In forty-one fifths? In forty-two fifths? In forty-three fifths? In forty-four fifths?

9. How many whole things are there in forty-five fifths? In forty-six? In forty-seven? In forty-eight? In forty-nine fifths?

10. How many whole things are there in fifty fifths? In fifty-two fifths? In fifty-three? In fifty-four fifths *how many?*

LESSON IX.

Of the Fraction One Sixth.

1. If an apple be divided into six equal parts, each part is called one sixth.

2. How many sixth parts are there in one apple?

3. How many sixths are there in one?

4. How many sixths are there in one and one sixth?

5. How many sixths are there in two? In two and three sixths? In two and four sixths?

6. How many sixths are there in three? In three and four sixths? In three and five sixths? In three and and two sixths?

7. How many sixths are there in four? In four and three sixths? In four and five sixths? In four and two sixths?

8. How many sixths are there in five? In five and three sixths? In five and four sixths? In five and five sixths?

9. How many sixths are there in six? In six and three sixths? In six and five sixths?

10. How many sixths are there in seven? In seven and one sixth? In seven and two sixths? In seven and five sixths.

11. How many sixths are there in eight? In eight and one sixth? In eight and two sixths?

12. How many sixths are there in nine? In nine and two sixths? In nine and four sixths?

13. How many sixths are there in ten? In ten and one sixth? In ten and two sixths? In ten and three sixths? In ten and four sixths?

LESSON X.

Questions about Sixths.

1. James has six sixths of an apple: how many whole apples are they equal to?

2. How many whole things are there in twelve sixths? In fifteen sixths? In sixteen sixths?

3. How many whole things are there in eighteen sixths? In twenty-one sixths? In twenty-two sixths? In nineteen sixths?

4. How many whole things are there in twenty-four sixths? In twenty-five sixths? In twenty-eight sixths?

5. How many whole things are there in thirty sixths? In thirty-five sixths? In thirty-one sixths? In thirty-two sixths?

6. How many whole things are there in thirty-six sixths? In thirty-eight sixths? In forty sixths? In forty-one sixths, how many?

7. How many whole things are there in forty-two sixths? In forty-five sixths? In forty-seven sixths, how many?

8. How many whole things are there in forty-eight sixths? In fifty sixths, how many? In fifty-one sixths, how many? In fifty-two sixths, how many?

9. How many whole things are there in fifty-four sixths? In fifty-five, how many? In fifty-seven? In fifty-eight? In fifty-nine?

10. How many whole things are there in sixty sixths? *In sixty-five* sixths? In sixty-one sixths?

LESSON XI.

Of the Fraction One Seventh.

1. If an apple be divided into seven equal parts, each part is called one seventh.

How many sevenths are there in one apple? How many sevenths in one thing?

2. How many sevenths are there in two things? In two and one seventh, how many? In two and two sevenths, how many?

3. How many sevenths are there in three things? In three and one seventh, how many? In three and two sevenths, how many?

4. How many sevenths are there in four things? In four and three sevenths, how many? In four and four sevenths, how many? In four and six sevenths?

5. How many sevenths are there in five? In five and two sevenths, how many? In five and three sevenths, how many? In five and six sevenths?

6. How many sevenths are there in six? In six and two sevenths, how many? In six and three sevenths? In six and four sevenths?

7. How many sevenths are there in seven? In seven and one seventh? In seven and three sevenths? In seven and four sevenths?

8. How many sevenths are there in eight? In eight and one seventh? In eight and two sevenths? In eight and five sevenths?

9. How many sevenths are there in nine? In nine and our sevenths? In nine and three sevenths?

10. How many sevenths are there in ten? In ten and one seventh? In ten and two sevenths? In ten and three *sevenths?*

LESSON XII.

Questions about Sevenths

1. How many whole apples are there in seve enths of an apple? How many whole things ar in seven sevenths?

2. How many whole things are there in f sevenths? In seventeen sevenths? In eightee enths? In twenty sevenths?

3. How many whole things are there in twe sevenths? In twenty-five sevenths? In twent sevenths?

4. How many whole things are there in twent sevenths? In twenty-nine sevenths? In thir enths? In thirty-two sevenths?

5. How many whole things are there in thi sevenths? In thirty-six sevenths? In thirty-ni enths? In forty sevenths?

6. How many whole things are there in fo sevenths? In forty-three sevenths? In forty-fo enths? In forty-six sevenths?

7. How many whole things are there in for sevenths? In fifty sevenths, how many? In fif sevenths? In fifty-five sevenths?

8. How many whole things are there in fifty-s enths? In fifty-eight sevenths? In fifty-nine se In sixty sevenths? In sixty-one sevenths?

9. How many whole things are there in sixt sevenths? In sixty-five sevenths? In sixty-eig enths? In sixty-nine sevenths?

10. How many whole things are there in s sevenths? In seventy-four sevenths? In seven *sevenths?* *In* seventy-six sevenths?

LESSON XIII.

Of the Fraction One Eighth.

1. If an apple be divided into eight equal parts, what is each part called? How many eighths are there in one?

2. How many eighths are there in two things? How many in two and one eighth? In two and five eighths? In two and six eighths?

3. How many eighths are there in three? In three and two eighths? In three and four eighths? In three and seven eighths? In three and six eighths?

4. How many eighths in four? In four and one eighth? In four and three eighths? In four and five eighths? In four and six eighths?

5. How many eighths are there in five? In five and one eighth? In five and two eighths? In five and three eighths? In five and five eighths?

6. How many eighths are there in six? In six and two eighths? In six and three eighths? In six and seven eighths? In six and four eighths?

7. How many eighths are there in seven? In seven and one eighth? In seven and two eighths? In seven and three eighths?

8. How many eighths are there in eight? In eight and one eighth? In eight and three eighths? In eight and four eighths? In eight and six eighths?

9. How many eighths are there in nine? In nine and one eighth? In nine and two eighths? In nine and three eighths? In nine and four eighths?

10. How many eighths are there in ten? In ten and one eighth? In ten and two eighths? In ten and three eighths?

LESSON XII.

Questions about Sevenths

1. How many whole apples are there in seven sevenths of an apple? How many whole things are there in seven sevenths?

2. How many whole things are there in fourteen sevenths? In seventeen sevenths? In eighteen sevenths? In twenty sevenths?

3. How many whole things are there in twenty-one sevenths? In twenty-five sevenths? In twenty-three sevenths?

4. How many whole things are there in twenty-eight sevenths? In twenty-nine sevenths? In thirty sevenths? In thirty-two sevenths?

5. How many whole things are there in thirty-five sevenths? In thirty-six sevenths? In thirty-nine sevenths? In forty sevenths?

6. How many whole things are there in forty-two sevenths? In forty-three sevenths? In forty-four sevenths? In forty-six sevenths?

7. How many whole things are there in forty-nine sevenths? In fifty sevenths, how many? In fifty-four sevenths? In fifty-five sevenths?

8. How many whole things are there in fifty-six sevenths? In fifty-eight sevenths? In fifty-nine sevenths? In sixty sevenths? In sixty-one sevenths?

9. How many whole things are there in sixty-three sevenths? In sixty-five sevenths? In sixty-eight sevenths? In sixty-nine sevenths?

10. How many whole things are there in seventy sevenths? In seventy-four sevenths? In seventy-five sevenths? In seventy-six sevenths?

LESSON XV.

Of the Fraction One Ninth.

1. If an apple be divided into nine equal parts, each part is called one ninth. How many ninths are there in one thing?

2. How many ninths are there in two things? How many in two and two ninths? In two and four ninths? In two and five ninths? In two and six ninths?

3. How many ninths are there in three? In three and seven ninths? In three and six ninths? In three and five ninths? In three and eight ninths?

4. How many ninths are there in four things? In four and one ninth? In four and three ninths? In four and six ninths? In four and eight ninths?

5. How many ninths are there in five? In five and two ninths? In five and three ninths? In five and four ninths? In five and six ninths?

6. How many ninths are there in six? In six and four ninths? In six and five ninths? In six and eight ninths?

7. How many ninths are there in seven? In seven and three ninths? In seven and four ninths? In seven and six ninths? In seven and eight ninths?

8. How many ninths are there in eight? In eight and one ninth? In eight and two ninths? In eight and four ninths?

9. How many ninths are there in nine? In nine and three ninths? In nine and four ninths? In nine and five ninths?

10. How many ninths are there in ten? In ten and one ninth? In ten and two ninths? In ten and eight ninths?

LESSON XVI.

Questions about Ninths.

1. How many whole apples are there in nine ninths of an apple? How many whole things are there in nine ninths?

2. How many whole things are there in eighteen ninths? In twenty ninths? In twenty-four ninths? In twenty-five ninths?

3. How many whole things are there in twenty-seven ninths? In twenty-nine ninths? In thirty-three ninths?

4. How many whole things are there in thirty-six ninths? In thirty ninths? In forty-two ninths? In forty-four ninths?

5. How many whole things are there in forty-five ninths? In forty-six ninths? In fifty ninths? In fifty-two ninths?

6. How many whole things are there in fifty-four ninths? In fifty-six ninths? In fifty-eight ninths? In sixty ninths?

7. How many whole things are there in sixty-three ninths? In sixty-five ninths? In sixty-eight ninths? In seventy ninths?

8. How many whole things are there in seventy-two ninths? In seventy-five ninths? In seventy-eight ninths? In seventy-nine ninths?

9. How many whole things are there in eighty-one ninths? In eighty-four ninths? In eighty-seven ninths? In eighty-nine ninths?

10. How many whole things are there in ninety ninths? In ninety-four ninths? In ninety-six ninths? In ninety-eight ninths?

LESSON XVII.

Of the Fraction One Tenth.

1. If an apple be divided into ten equal parts, each part is called one tenth. How many tenths are there in one thing?

2. How many tenths are there in two things? In two and three tenths? In two and five tenths? In two and nine tenths?

3. How many tenths are there in three? In three and four tenths? In three and five tenths? In three and six tenths?

4. How many tenths are there in four? In four and four tenths? In four and five tenths? In four and eight tenths?

5. How many tenths are there in five? In five and three tenths? In five and six tenths? In five and nine tenths?

6. How many tenths are there in six? In six and three tenths? In six and seven tenths? In six and eight tenths?

7. How many tenths are there in seven? In seven and three tenths? In seven and eight tenths? In seven and nine tenths?

8. How many tenths are there in eight? In eight and four tenths? In eight and five tenths? In eight and nine tenths?

9. How many tenths are there in nine? In nine and four tenths? In nine and five tenths? In nine and eight tenths?

10. How many tenths are there in ten? In ten and five tenths? In ten and six tenths? In ten and nine tenths?

LESSON XVIII.

Questions about Tenths.

1. How many whole things are there in ten tenths? In twelve tenths? In fifteen tenths? In eighteen tenths?

2. How many whole things are there in twenty tenths? In twenty-five tenths? In twenty-eight tenths? In twenty-nine tenths?

3. How many whole things are there in thirty tenths? In thirty-five tenths? In thirty-six tenths?

4. How many whole things are there in forty tenths? In forty-four tenths? In forty-six tenths? In forty-eight tenths?

5. How many whole things are there in fifty tenths? In fifty-five tenths? In fifty-seven tenths? In fifty-nine tenths?

6. How many whole things are there in sixty tenths? In sixty-five tenths? In sixty-seven tenths? In sixty-eight tenths?

7. How many whole things are there in seventy tenths? In seventy-six tenths? In seventy-eight tenths? In seventy-nine tenths?

8. How many whole things are there in eighty tenths? In eighty-four tenths? In eighty-six tenths? In eighty-eight tenths?

9. How many whole things are there in ninety tenths? In ninety-five tenths? In ninety-six tenths? In ninety-eight tenths?

10. How many whole things are there in one hundred tenths? In one hundred and six tenths? In one hundred and eight tenths? In one hundred and nine tenths.

LESSON XIX.

Of the Fraction One Eleventh.

1. If an apple be divided into eleven equal parts, each part is called one eleventh. How many elevenths are there in one thing?

2. How many elevenths are there in two things? In two and four elevenths? In two and six elevenths?

3. How many elevenths are there in three things? In three and one eleventh? In three and three elevenths?

4. How many elevenths are there in four things? In four and two elevenths, how many? In four and seven elevenths? In four and nine elevenths?

5. How many elevenths are there in five? In five and three elevenths? In five and four elevenths?

6. How many elevenths are there in six? In six and nine elevenths? In six and ten elevenths?

7. How many elevenths are there in seven? In seven and three elevenths? In seven and four elevenths?

8. How many elevenths are there in eight? In eight and one eleventh? In eight and three elevenths? In eight and nine elevenths?

9. How many elevenths are there in nine? In nine and one eleventh? In nine and ten elevenths? In nine and five elevenths?

10. How many elevenths are there in ten? In ten and three elevenths? In ten and four elevenths? In ten and five elevenths?

11. How many elevenths are there in eleven? In eleven and three elevenths? In eleven and eight elevenths?

LESSON XX.

Questions about Elevenths.

1. How many whole things are there in eleven elevenths? In fourteen elevenths, how many? In sixteen elevenths, how many?

2. How many things are there in twenty-two elevenths? In twenty-five elevenths, how many? In thirty elevenths, how many?

3. How many whole things are there in thirty-three elevenths? In forty elevenths, how many? In thirty-nine elevenths, how many?

4. How many whole things are there in forty-four elevenths? In forty-nine elevenths, how many? In forty-seven elevenths, how many?

5. How many whole things are there in fifty-five elevenths? In sixty elevenths, how many?

6. How many whole things are there in sixty-six elevenths? In seventy elevenths, how many?

7. How many whole things are there in seventy-seven elevenths? In eighty elevenths, how many?

8. How many whole things are there in eighty-eight elevenths? How many in ninety elevenths? In ninety-five? In ninety-seven?

9. How many whole things are there in ninety-nine elevenths? In one hundred and six? In one hundred and eight?

10. How many whole things are there in one hundred and ten elevenths? In one hundred and fifteen elevenths, how many?

11. How many whole things are there in one hundred *and twenty-one* elevenths? How many in one hundred *and twenty-six?* In one hundred and twenty-nine?

LESSON XXI.

Of the Fraction One Twelfth.

1. If an apple be divided into twelve equal parts, each part is called one twelfth? How many twelfths in one?

2. How many twelfths are there in two? How many in two and three twelfths? In two and eight twelfths, how many?

3. How many twelfths are there in three? In three and four twelfths, how many? In three and six twelfths, how many?

4. How many twelfths are there in four? How many in four and three twelfths? How many in four and nine twelfths? In four and eleven elevenths?

5. How many twelfths in five? How many in five and seven twelfths? How many in five and nine twelfths? How many in five and eleven twelfths?

6. How many twelfths in six? How many in six and eight twelfths? How many in six and ten twelfths? How many in six and seven twelfths?

7. How many twelfths in seven? How many in seven and two twelfths? How many in seven and five twelfths? How many in seven and six twelfths?

8. How many twelfths in eight? How many in eight and four twelfths? How many in eight and nine twelfths?

9. How many twelfths in nine? How many in nine and three twelfths? How many in nine and nine twelfths? In nine and eleven twelfths?

10. How many twelfths are there in ten? How many in ten and six twelfths? How many in ten and nine twelfths? In ten and eleven twelfths?

11. How many twelfths are there in eleven? In eleven and six twelfths? In eleven and nine twelfths?

LESSON XXII.

Questions about Twelfths.

1. How many whole things are there in twelve twelfths? How many in fifteen twelfths? In sixteen twelfths? In eighteen twelfths?

2. How many whole things are there in twenty-four twelfths? In twenty-nine twelfths? In thirty? In thirty-four? In thirty-five?

3. How many whole things are there in thirty-six twelfths? In forty? In forty-four? In forty-five?

4. How many whole things are there in forty-eight twelfths? In fifty? In fifty-six? In fifty-eight?

5. How many whole things are there in sixty twelfths? In sixty-seven twelfths, how many? How many in sixty-nine twelfths? In seventy? In seventy-one?

6. How many whole things are there in seventy-two twelfths? In seventy-eight? In seventy-nine? In eighty? In eighty-two? In eighty-three?

7. How many whole things in eighty-four twelfths? How many in eighty-six? How many in eighty-eight? How many in ninety?

8. How many whole things in ninety-six twelfths? In one hundred, how many? How many in one hundred and six? In one hundred and eight?

9. How many whole things in one hundred and eight twelfths? How many in one hundred and ten?

10. How many whole things in one hundred and twenty twelfths? In one hundred and twenty-five?

11. How many whole things in one hundred and thirty-two twelfths? In one hundred and thirty-nine?

12. How many whole things in one hundred and *ty-four twelfths?* In one hundred and fifty?

LESSON XXIII.

Of writing Fractions in Figures.

1. The following is the manner of writing fractions with figures:—

$\frac{1}{2}$	one half.	$\frac{1}{8}$	one eighth.
$\frac{1}{3}$	one third.	$\frac{1}{9}$	one ninth.
$\frac{1}{4}$	one fourth.	$\frac{1}{10}$	one tenth.
$\frac{1}{5}$	one fifth.	$\frac{1}{12}$	one twelfth.
$\frac{1}{6}$	one sixth.	$\frac{1}{14}$	one fourteenth.
$\frac{1}{7}$	one seventh.	$\frac{1}{20}$	one twentieth.

Q. What is the figure above the line called? *A.* The numerator.

Q. What is the figure below the line called? *A.* The denominator.

Q. What does the denominator show? *A.* It shows into how many equal parts the single thing is divided.

Q. What does the numerator show? *A.* How many of those equal parts are taken.

Q. What may the single thing which is divided be called? *A.* A unit, or one.

Q. Is one appple a unit? Is one peach a unit? Is one dollar a unit? Is one book a unit?

Q. In the fraction $\frac{1}{3}$, into how many parts is the unit divided? Which figure is the numerator? Which the denominator?

Q. In the fraction $\frac{1}{12}$, into how many parts is the unit divided? Which is the numerator? Which the denominator?

LESSON XXIV.

About writing Fractions.

1. Read the following fractions:—

$\frac{3}{8}$	three eighths.	$\frac{41}{16}$	forty-one sixteenths.
$\frac{3}{7}$	three sevenths.	$\frac{44}{85}$	forty-four eighty-fifths.
$\frac{5}{9}$	five ninths.	$\frac{27}{18}$	twenty-seven eighteenths.
$\frac{6}{12}$	six twelfths.	$\frac{31}{48}$	thirty-one forty-eighths.
$\frac{7}{15}$	seven fifteenths.	$\frac{39}{74}$	thirty-nine seventy-fourths.
$\frac{8}{13}$	eight thirteenths.	$\frac{19}{20}$	nineteen twentieths.

2. In the fraction $\frac{3}{8}$, into how many equal parts is the unit divided? How many of these parts are taken?

3. In the fraction $\frac{3}{7}$, into how many equal parts is the unit divided? How many parts are taken?

4. In the fraction $\frac{5}{9}$, into how many equal parts is the unit divided? How many parts are taken

5. In the fraction $\frac{5}{9}$, into how many equal parts is the unit divided? How many parts are taken?

6. In the fraction $\frac{6}{12}$, into how many equal parts is the unit divided? How many parts are taken?

7. In the fraction $\frac{7}{15}$, into how many equal parts is the unit divided? How many parts are taken?

8. In the fraction $\frac{8}{13}$, into how many equal parts is the unit divided? How many parts are taken?

9. In the fraction $\frac{27}{18}$, into how many equal parts is the unit divided? How many parts are taken?

LESSON XXV.

Questions in Fractions

1. Write one third of one. *Ans.* $\frac{1}{3}$
2. Write one third of two. *Ans.* $\frac{2}{3}$
3. Write one third of four. *Ans.* $\frac{4}{3}$
4. What is one fifth of 6? What is one sixth of 7?
5 What number is that of which 2 is the one half?
6. What number is that of which 7 is the one tenth?
7. What number is that of which 9 is the one third?
8. What number is that of which 6 is the one fourth?
9. What number is that of which 6 is the one sixth?
10. What number is that of which 1 is the one third?
11. What number is that of which 1 is the quarter?
12. What number is that of which 3 is the quarter?
13. What figures express four twelfths?
14. What figures express three tenths?
15. What figures express seven ninths?
16. What figures express eighteen sixteenths?
17. What figures express one third of seven?
18. What figures express one twelfth of six?
19. What figures express nine eighths of one?
20. What figures express eleven tenths of one?
21. What figures express two thirds of one?
22. What figures express three sevenths of one?
23. What is one eighth of two?
24. What expresses one ninth of sixth?
25. What expresses one seventeenth of eight?
26. *What* expresses one fourteenth of six?

SECTION SIXTH.

LESSON I.

About Federal Money.

TABLE OF FEDERAL MONEY

10 mills make	1 cent	*ct.*
10 cents	1 dime	*d.*
10 dimes	1 dollar	$.
10 dollars	1 eagle	*E.*

1. How many mills are there in two cents ? In three cents ? In half a cent ? In five cents ? In five cents and a half ? In eight cents and a half ?

2. How many cents are there in ten mills ? In fifteen mills ? In sixty-five mills ? In seventy mills ? In eighty mills.

3. How many cents are there in five dimes ? In six dimes ? In eight dimes ? In ten dimes ? In twelve dimes.

4. How many dimes are there in ten cents ? In twelve cents ? In sixteen cents ? In thirty cents ? In forty-five cents ?

5. How many dimes in one dollar ? In two dollars ? In three dollars ? In four dollars ? In five dollars ? In six dollars ? In seven dollars ? In seven dollars and a half ?

6. How many dollars in one eagle ? In two eagles ? In five eagles ? In six eagles ? In nine eagles ?

7. How many eagles in twenty dollars ? In thirty dollars ? In fifty dollars ? In sixty dollars ?

LESSON II.

About Sterling Money.

TABLE OF STERLING MONEY.

4	farthings make	1	penny	*d.*
12	pence	1	shilling	*s.*
20	shillings	1	pound	£.
4	shillings and 6 pence	1	dollar	$.
21	shillings	1	guinea.	

1. How many farthings are there in one penny? In two-pence? In four? In six? In eight? In ten?

2. How many pence in four farthings? In eight farthings? In twelve? In fourteen? In sixteen? In twenty? In twenty-four?

3. How many pence are there in one shilling? In two shillings? In three shillings? In four shillings?

4. How many shillings are there in twelve pence? In eighteen? In twenty? In twenty-four? In twenty-six pence?

5. How many shillings are there in one pound? In two pounds? In three? In five? In four pounds?

6. How many pounds are there in twenty shillings? In forty shillings? In sixty shillings? In eighty shillings? In one hundred shillings?

7. How many shillings in one dollar? In two dollars? In three? In four? In six?

8. How many guineas in twenty-one shillings? In forty-two shillings? How many shillings in one guinea? *In two guineas*? In three guineas?

LESSON III.

About Troy Weight.

TABLE OF TROY WEIGHT.

24 grains, *gr.*	make	1 pennyweight,	- -	*pwt.*
20 pennyweights	-	1 ounce,	- - - - -	*oz.*
12 ounces	- - -	1 pound,	- - - - -	*lb.*

1. How many grains are there in one pennyweight? In two pennyweights? In three pennyweights? In four pennyweights?

2. How many pennyweights are there in twenty-four grains? In forty-eight grains? In seventy-two grains? In ninety-six grains?

3. How many pennyweights in one ounce? In two ounces? In three? In four? In five?

4. How many ounces are there in twenty penny weights? In forty pennyweights? In sixty? In eighty pennyweights?

5. How many ounces are there in one pound? In two pounds? In three pounds? In four pounds? In five pounds?

6. How many pounds in twelve ounces? In twenty-four? In thirty-six? In forty-eight? In sixty?

7. How many pennyweights in four ounces? In two *ounces? How* many grains in one ounce? In two *ounces? In* three ounces?

LESSON IV.

About Apothecaries' Weight.

TABLE OF APOTHECARIES' WEIGHT.

20	grains, *gr.*	make	1 scruple,	℈.
3	scruples	- - -	1 dram,	ʒ.
8	drams	- - -	1 ounce,	℥.
12	ounces	- - -	1 pound,	℔.

1. How many grains are there in one scruple? In two scruples? In three? In four?

2. How many scruples in twenty grains? In forty? In sixty? In eighty?

3. How many scruples in one dram? In two? In three? In four, how many?

TABLE OF AVOIRDUPOIS WEIGHT.

16	drams, *dr.*	make	1 ounce,	*oz.*
16	ounces	- - -	1 pound,	*lb.*
28	pounds	- - -	1 quarter,	*qr.*
4	quarters	- - -	1 hundred weight,	*cwt.*
20	hundred weight,		1 ton,	T.

1. How many drams in an ounce? How many ounces in a pound? How many pounds in a quarter? How many quarters in a hundred? How many hundred in a ton?

2. How many drams in two ounces? How many ounces in two pounds? How many pounds in two quarters? How many quarters in two hundred? How many hundreds in two tons?

LESSON XX.

Questions about Elevenths.

1. How many whole things are there in eleven elevenths? In fourteen elevenths, how many? In sixteen elevenths, how many?

2. How many things are there in twenty-two elevenths? In twenty-five elevenths, how many? In thirty elevenths, how many?

3. How many whole things are there in thirty-three elevenths? In forty elevenths, how many? In thirty-nine elevenths, how many?

4. How many whole things are there in forty-four elevenths? In forty-nine elevenths, how many? In forty-seven elevenths, how many?

5. How many whole things are there in fifty-five elevenths? In sixty elevenths, how many?

6. How many whole things are there in sixty-six elevenths? In seventy elevenths, how many?

7. How many whole things are there in seventy-seven elevenths? In eighty elevenths, how many?

8. How many whole things are there in eighty-eight elevenths? How many in ninety elevenths? In ninety-five? In ninety-seven?

9. How many whole things are there in ninety-nine elevenths? In one hundred and six? In one hundred and eight?

10. How many whole things are there in one hundred and ten elevenths? In one hundred and fifteen elevenths, how many?

11. How many whole things are there in one hundred and twenty-one elevenths? How many in one hundred and twenty-six? In one hundred and twenty-nine?

LESSON XXI.

Of the Fraction One Twelfth.

1. If an apple be divided into twelve equal parts, each part is called one twelfth? How many twelfths in one?

2. How many twelfths are there in two? How many in two and three twelfths? In two and eight twelfths, how many?

3. How many twelfths are there in three? In three and four twelfths, how many? In three and six twelfths, how many?

4. How many twelfths are there in four? How many in four and three twelfths? How many in four and nine twelfths? In four and eleven elevenths?

5. How many twelfths in five? How many in five and seven twelfths? How many in five and nine twelfths? How many in five and eleven twelfths?

6. How many twelfths in six? How many in six and eight twelfths? How many in six and ten twelfths? How many in six and seven twelfths?

7. How many twelfths in seven? How many in seven and two twelfths? How many in seven and five twelfths? How many in seven and six twelfths?

8. How many twelfths in eight? How many in eight and four twelfths? How many in eight and nine twelfths?

9. How many twelfths in nine? How many in nine and three twelfths? How many in nine and nine twelfths? In nine and eleven twelfths?

10. How many twelfths are there in ten? How many in ten and six twelfths? How many in ten and nine twelfths? In ten and eleven twelfths?

11. How many twelfths are there in eleven? In eleven and six twelfths? In eleven and nine twelfths?

LESSON VII.

About Cloth Measure.

TABLE OF CLOTH MEASURE.

2¼	inches,	*in.*	make	1	nail,	*na.*
4	nails			1	quarter of a yard,	*qr.*
4	quarters			1	yard,	*yd.*
3	quarters			1	Ell Flemish,	*E. Fl.*
5	quarters			1	Ell English,	*E. E.*
6	quarters			1	Ell French,	*E. Fr.*

1. How many inches make a nail? How many make two nails? Three nails? Four nails?

2. How many nails make a quarter of a yard? How many make two quarters? How many make three quarters? How many make one yard?

3. How many quarters make one yard? How many make two yards? Three yards? Four yards? Five yards?

4. How many quarters make an Ell Flemish? How many make two Ells? Three Ells? Four? Five? Six? Seven?

5. How many Ells Flemish in three quarters of a yard? In six quarters? In nine? In twelve? In fifteen?

6. How many quarters make an Ell English? How many make two Ells? Three? Four? Five? Six?

7. How many quarters make one Ell French? How many make two? Three? Four? Five? Six? Seven? Eight? Nine?

8. How many Ells French in six quarters? In twelve? In eighteen? In twenty-four? In thirty?

LESSON VIII.

About Wine Measure.

TABLE OF WINE MEASURE.

4	gills,	*gi.*	make	1	pint,	*pt.*
2	pints			1	quart,	*qt.*
4	quarts			1	gallon,	*gal.*
31½	gallons			1	barrel,	*bar.*
63	gallons			1	hogshead,	*hhd.*
2	hogsheads			1	pipe,	*pi.*
2	pipes or 4 hogsheads			1	tun,	*tun.*

1. How many gills make a pint? How many make two pints? Three pints? Four pints? Five? Six?

2. How many pints in a quart? In two quarts? In three quarts? In four? In six? In seven?

3. How many quarts in two pints? In four pints? In six? In eight? In ten? In twelve?

4. How many quarts in one gallon? How many in two? In three? In four? In five? In six? Seven?

5. How many gallons in four quarts? In eight quarts? In twelve? In sixteen? In twenty?

6. How many gallons in a barrel? In two barrels, how many?

7. How many gallons in a hogshead? In two?

8. How many hogsheads in a pipe? In two pipes? In three pipes, how many? In four? In five?

9. How many pipes in two hogsheads? In four? In six? In eight? In ten? In twelve? In sixteen?

10. How many pipes in one tun? In two tuns? In three? In four? In six?

11. How many tuns in two pipes? In four? In six?

LESSON IX.

About Ale and Beer Measure.

TABLE OF ALE AND BEER MEASURE.

2 pints, *pt.* make	- - 1 quart,	- - -	*qt.*
4 quarts -	- - - - - 1 gallon,	- - -	*gal.*
36 gallons	- - - - - 1 barrel,	- - -	*bar.*
54 gallons	- - - - - 1 hogshead	- -	*hhd.*

1. How many pints make a quart? How many pints in two quarts? In three? In four? In five?

2. How many quarts in two pints? In four? In six? In eight? In ten? In twelve?

3. How many quarts make a gallon? How many quarts in two gallons? In four? In five?

4. How many gallons in four quarts? In eight? In twelve? In sixteen? In twenty? In twenty-four?

5. How many gallons in a barrel? In ten barrels? In three? In five? In seven? In six?

6. How many barrels in thirty-six gallons? In seventy-two? In one hundred and eight gallons?

7. How many gallons in a hogshead? In two?

8. How many hogsheads in fifty-four gallons? In one hundred and eight, how many?

9. How many pints in a gallon? In two? In three? In four? In five, how many?

10. How many quarts in a barrel? In two? In three? In four? In five? In six, how many?

LESSON X.

About Dry Measure.

TABLE OF DRY MEASURE.

2 pints, *pt.* make	1 quart,	*qt.*
8 quarts	1 peck,	*pk.*
4 pecks	1 bushel,	*bu.*
36 bushels	1 chaldron,	*ch.*

1. How many pints in a quart? In two quarts? In three quarts? In four? In five? In six?

2. How many quarts in two pints? In four? In six? In eight? In ten? In twelve? In sixteen? In eighteen? In twenty? In twenty-two?

3. How many quarts in a peck? In two pecks? In three? In four? In five?

4. How many pecks in eight quarts? In sixteen? In twenty-four? In thirty-two? In forty? In forty-eight? In sixty-four? In seventy-two?

5. How many pecks in one bushel? In two? In three? In four? In five? In six? In seven? In eight? In nine? In ten?

6. How many bushels in four pecks? In eight? In twelve? In sixteen? In twenty? In twenty-four? In twenty-eight? In thirty-two? In forty?

7. How many bushels in one chaldron? In two? In three, how many?

8. How many chaldrons in thirty-six bushels? In *seventy-two?* In one hundred and eight?

LESSON XI.

About Time.

TABLE.

60	seconds, *sec.* make	1	minute, - - -	*m.*
60	minutes - - - -	1	hour, - - -	*hr.*
24	hours - - - - -	1	day, - - - - -	*da.*
7	days - - - - - -	1	week, - - -	*wk.*
4	weeks - - - -	1	month, - - -	*mo.*
52	weeks - - - -	1	year, - - - - -	*yr.*
100	years - - - - -	1	century, - - -	*C.*

The year is also divided into twelve calendar months, which contain an unequal number of days.

1	month	January, - - -	31
2	- - -	February, - - -	28
3	- - -	March, - - - -	31
4	- - -	April, - - - -	30
5	- - -	May, - - - -	31
6	- - -	June, - - - -	30
7	- - -	July, - - - -	31
8	- - -	August, - - - -	31
9	- - -	September, - - -	30
10	- - -	October, - - -	31
11	- - -	November, - - -	30
12	- - -	December, - - -	31
		Total	365

Thirty days hath September,
April, June, and November;
All the rest have thirty-one,
Excepting February, twenty-eight alone.

LESSON XII.

About Circular Motion.

TABLE OF CIRCULAR MOTION.

60	seconds, ″ make	1 minute,	′.
60	minutes	1 degree,	°.
30	degrees	1 sign,	s.
12	signs or 360°	1 circle,	c.

1. How many seconds make a minute? How many seconds in two minutes? In three?

2. How many minutes in one degree? In two?

3. How many degrees in one sign? In two?

4. How many signs in one circle? In two?

TABLE OF PARTICULARS.

12	things make	1 dozen.
12	dozen	1 gross.
12	gross, or 144 dozen	1 great gross.
	ALSO,	
20	things make	1 score.
112	pounds	1 quintal of fish.
24	sheets of paper	1 quire.
20	quires	1 ream.

BOOKS.

A sheet	folded in two leaves is called	a folio.
"	folded in four leaves	a quarto.
"	folded in eight leaves	an octavo or 8vo.
"	folded in twelve leaves	a duodecimo or 12mo.
"	folded in eighteen leaves	an 18mo.

NUMERATION TABLE.*

6th Period, or Period of Quadrillions.			5th Period, or Period of Trillions.			4th Period, or Period of Billions.			3d Period, or Period of Millions.			2d Period, or Period of Thousands.			1st Period, or Period of Units.		
Hundreds of Quadrillions.	Tens of Quadrillions.	Quadrillions.	Hundreds of Trillions.	Tens of Trillions.	Trillions.	Hundreds of Billions.	Tens of Billions.	Billions.	Hundreds of Millions.	Tens of Millions.	Millions.	Hundreds of Thousands.	Tens of Thousands.	Thousands.	Hundreds.	Tens.	Units.
																	6
																7	5
															8	7	9
														6,	0	2	3
													8	2,	3	0	1
												1	2	3,	0	8	7
											7,	6	2	8,	7	3	5
										4	3,	2	1	0,	4	6	0
									5	4	8,	7	2	1,	0	8	7
								6,	2	4	5,	2	8	9,	4	2	1
							7	2,	5	4	9,	1	3	6,	8	2	2
						8	9	4,	6	0	2,	0	4	3,	2	8	8
					7,	6	4	1,	2	4	8,	9	0	7,	4	5	6
				8	4,	9	1	2,	8	7	6,	4	1	0,	2	8	5
			9	1	2,	7	6	1,	2	5	7,	3	2	7,	8	2	6
		6,	4	0	7,	2	1	2,	9	3	6,	8	7	6,	5	4	1
	5	7,	2	8	9,	6	7	8,	5	4	1,	2	9	7,	3	1	3
9	2	0,	3	2	3,	8	4	2,	7	6	8,	3	1	9,	6	7	5

The words at the head of the numeration table, *units*, *tens*, *hundreds*, &c., are equally applicable to all numbers, and must be committed to memory; after which, the pupil may read the table.

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* *NOTE.—This* table is formed according to the French method of numeration. *The English* method gives six places to thousands, &c.

PART SECOND

OF

ORAL ARITHMETIC.

LESSON I.

In which we consider the exact Fractional Parts of the Numbers from One to Ten.

1. What is the half of two? What is one third of three? What is two thirds of three? What is three thirds of three?

2. What is one fourth of four? What is two fourths of 4? What is three fourths of 4? What is four fourths of 4?

3. What is one fifth of 5? What is two fifths of 5? What is three fifths of 5? What is four fifths of 5? What is five fifths of 5?

4. What is one sixth of six? What is two sixths of 6? What is three sixths of 6? What is four sixths of 6? What is five sixths of 6? What is six sixths of 6?

5. What is one seventh of seven? What is two sevenths of 7? What is three sevenths of 7? Four sevenths of 7? Five sevenths of 7? Six sevenths of 7? Seven sevenths of 7?

6. What is one eighth of eight? What is two eighths of 8? What is three eighths of 8? What is four eighths of 8? Five eighths of 8? Six eighths of 8? Seven eighths of 8? Eight eighths of 8?

7. What is one ninth of nine? What is two ninths of 9? Three ninths of 9? Four ninths of 9? Five ninths of 9? Six ninths of 9? Seven ninths of 9? *Eight ninths of* 9? Nine ninths of 9?

8. What is one tenth of ten? What is two tenths of 10? What is three tenths of 10? Four tenths of 10? Five tenths of 10? Six tenths of 10? Seven tenths of 10? Eight tenths of 10? Nine tenths of 10? Ten tenths of 10?

9. What is one eleventh of eleven? What is two elevenths of 11? Three elevenths of 11? Four elevenths of 11? Five elevenths of 11? Six elevenths of 11? Seven elevenths of 11? Eight elevenths of 11? Nine elevenths of 11? Ten elevenths of 11? Eleven elevenths of 11?

10. What is one twelfth of twelve? What is two twelfths of 12? What is three twelfths of 12? What is four twelfths of 12? What is five twelfths of 12? What is six twelfths of 12? What is seven twelfths of 12? What is eight twelfths of 12? What is nine twelfths of 12? What is ten twelfths of 12? What is eleven twelfths of 12? What is twelve twelfths of 12?

LESSON II.

In which we consider the exact Fractional Parts of Numbers in general.

1. What is two thirds of 9? What is one fifth of 10? What is three fifths of 10? What is seven fifths of 10? What is 9 fifths of 5? What is one sixth of 12? What is 9 sixths of twelve? What is one eighth of 16? What is five eighths of 16? What is three sevenths of 14? What is nine fourths of 8? What is six sevenths of 7?

2. What is four ninths of 18? What is six tenths of 20? What is eight tenths of 30? What is one tenth of 40? What is five tenths of 40? What is seven tenths of 20? What is nine tenths of 36? What is

one twelfth of 48? What is two twelfths of 48? What is nine twelfths of 84? What is 11 twelfths of 48? What is 12 twelfths of 48?

3. What is eight ninths of eighteen? What is nine twelfths of 24? What is six twelfths of 48? What is ten twelfths of 36? What is seven twelfths of 48? What is eleven twelfths of 60? What is seven fifths of 30? What is eight ninths of 72? What is six tenths of 40? What is seven sixths of 42? What is eight fifteenths of 30? What is nine twelfths of 60? What is twelve fifteenths of 30?

4. What is ten fifths of sixty? What is eight ninths of 27? What is five ninths of 36? What is nine twelfths of 84? What is seven twelfths of 96? What is six sevenths of 84? What is eight elevenths of 44? Of 55? Of 66? Of 77? Of 88? Of 99? Of 110? Of 131? Of 144?

5. What is two twelfths of twenty-four? Of 36? Of 48? Of 60? Of 72? Of 144? Of 84? Of 96? What is three tenths of 20? Of 30? Of 50? Of 70? Of 60? Of 80? Of 120? Of 110? Of 100?

6. What is two eighths of eight? Of 16? Of 24? Of 48? Of 56? Of 64? Of 96? Of 88? What is five sevenths of 14? Of 21? Of 28? Of 56? Of 63? Of 70? Of 84? Of 77?

7. What is four ninths of eighteen? Of 27? Of 36? Of 45? Of 63? Of 90? Of 108? Of 99? Of 54? What is eight elevenths of 22? Of 33? Of 77? Of 99? Of 121? Of 110? Of 132? Of 88? Of 66? Of 55?

8. What is seven ninths of 18? Of 36? Of 54? Of 72? Of 81? Of 99? Of 108? Of 45? Of 27? What is *four fifths of five*? Of 20? Of 10? Of 25? Of 35? *Of 20? Of 30?* Of 60? Of 45? Of 55? Of 40?

LESSON III.

In which we consider one Number as an exact part of another.

1. What part of two is one? What part of 4 is 2? What part of 6 is 3? What part of 8 is 4? What part of 12 is 6? What part of 20 is 10? What part of 16 is 8?

2. What part of 3 is 1? What part of 6 is 2? What part of 9 is 3? What part of 12 is 4? What part of 15 is 5? What part of 21 is 7? What part of 24 is 8? What part of 36 is 12? What part of 48 is 16?

3. What part of 4 is 1? What part of 8 is 2? What part of 12 is 3? What part of 12 is 2? What part of 12 is 1? What part of 12 is 6? What part of 16 is 4? What part of 24 is 6?

4. Five is what part of 20? Of 30? Of 40? Of 50? Of 60? What part of 6 is 1? What part of 18 is 3? What part of 36 is 6? Seven is what part of 14? Of 42? Of 56? Of 84? Of 77? Of 49?

5. Six is what part of 42? Of 48? Of 54? Of 72? What part of 14 is 7? What part of 24 is 3? Eight is what part of 64? Of 96? Of 88? Of 80? Three is what part of 27? Of 30? Of 45? Of 36? Of 33? Of 18? Of 15? Of 12? Of 9?

6. Five is what part of 20? What part of 45? Of 60? Of 55? Of 15? Of 10? What part of 30 is 5? What part of 16 is 2? What part of 32 is 16? What part of 60 is 12? What part of 96 is 8? What part of 90 is 10? What part of 63 is 7? What part of 63 *is 9?* What part of 49 is 7? What part of 56 is 8? *What part of* 75 is 15?

LESSON IV.

In which we consider the lowest terms of a Fraction.

1. When is a fraction in its lowest terms?

Ans. When there is no number except 1 which will divide the numerator and denominator without a remainder.

2. How do you reduce a fraction to its lowest terms?

Ans. By dividing the numerator and denominator by any number that will divide both of them without a remainder.

3. What are the lowest terms of the fraction $\frac{2}{4}$? *Ans.* $\frac{1}{2}$.
4. What are the lowest terms of $\frac{4}{8}$? *Ans.* $\frac{1}{2}$.
5. What are the lowest terms of $\frac{6}{12}$? *Ans.* $\frac{1}{2}$.
6. What are the lowest terms of $\frac{8}{16}$? *Ans.* $\frac{1}{2}$.
7. What are the lowest terms of $\frac{3}{9}$? *Ans.* $\frac{1}{3}$.
8. What are the lowest terms of $\frac{4}{12}$? *Ans.* $\frac{1}{3}$
9. What are the lowest terms of $\frac{3}{12}$? *Ans.* $\frac{1}{4}$.
10. What are the lowest terms of $\frac{3}{15}$? *Ans.* $\frac{1}{5}$.
11. What are the lowest terms of $\frac{3}{18}$? *Ans.* $\frac{1}{6}$.

12. What are the lowest terms of $\frac{3}{18}$? Of $\frac{10}{30}$? Of $\frac{6}{24}$? Of $\frac{8}{12}$? Of $\frac{3}{18}$? Of $\frac{9}{27}$? Of $\frac{6}{12}$?

13. What are the lowest terms of $\frac{2}{12}$? Of $\frac{16}{32}$? Of $\frac{9}{81}$? Of $\frac{7}{49}$? Of $\frac{8}{56}$? $\frac{9}{81}$? Of $\frac{8}{64}$? Of $\frac{32}{64}$? Of $\frac{18}{36}$? Of $\frac{8}{24}$?

14. What are the lowest terms of $\frac{2}{14}$? Of $\frac{8}{12}$? Of $\frac{6}{9}$? Of $\frac{12}{18}$? Of $\frac{3}{15}$? $\frac{7}{28}$? Of $\frac{5}{35}$? Of $\frac{5}{55}$? Of $\frac{5}{60}$? Of $\frac{12}{72}$? Of $\frac{12}{84}$?

15. What are the lowest terms of $\frac{30}{45}$? Of $\frac{21}{7}$? Of $\frac{6}{30}$? Of $\frac{6}{60}$? Of $\frac{7}{63}$? Of $\frac{9}{63}$? Of $\frac{8}{64}$? Of $\frac{9}{108}$? Of $\frac{8}{56}$? Of $\frac{6}{72}$? Of $\frac{7}{35}$? Of $\frac{10}{80}$? Of $\frac{9}{90}$? Of $\frac{3}{9}$? Of $\frac{8}{40}$?

16. What are the lowest terms of $\frac{8}{80}$? Of $\frac{7}{14}$? Of $\frac{7}{56}$? Of $\frac{8}{76}$? Of $\frac{7}{84}$? Of $\frac{9}{63}$? Of $\frac{7}{63}$? Of $\frac{7}{49}$? Of $\frac{8}{48}$? Of $\frac{6}{48}$?

LESSON V.

In which we consider the fractional parts of a Dollar.

1. How many cents are there in half a dollar? How many in a quarter? How many in three quarters? What part of a dollar is 25 cents? What part of a dollar is 50 cents? What part of a dollar is 75?

2. How many cents in one tenth of a dollar? In four tenths? In three tenths? In five tenths? In seven tenths? In eight tenths? In nine tenths? What part of a dollar is ten cents? Is 20 cents? Is 50 cents? Is 60 cents? Is 70 cents? Is 80 cents? Is 90?

3. How many cents in one third of a dollar? In two thirds? What part of a dollar is $33\frac{1}{3}$ cents? What part is $66\frac{2}{3}$ cents? If we reckon six shillings to the dollar, how many cents will there be in one shilling? In two shillings? In three shillings? In four shillings? In five shillings?

4. If we reckon eight shillings to the dollar, how many cents will there be in one shilling? In two shillings? In three shillings? In four? In five? In six? In seven? What is the value of one eighth of a dollar? Of three eighths? Of four eighths? Of five eighths? Of seven eighths?

5. How many cents in one fifth of a dollar? In two fifths? In four fifths? In three fifths? What part of a dollar is 20 cents? Is 30 cents? What is the twelfth of a dollar? Four twelfths? Five twelfths? What is three twentieths of a dollar? What is nine tenths of a dollar? What is two eighths of a dollar?

LESSON VI.

In which we consider what part one Number is of another.

1. What part of 2 is 1? *Ans.* One half.
What part of 3 is 1? *Ans.* One third.
What part of 4 is 1? *Ans.* One fourth.
What part of 4 is 2? *Ans.* Two fourths.
What part of 3 is 2? *Ans.* Two thirds.
What part of 4 is 3? *Ans.* Three fourths.

2. What part of 5 is 2? *Ans.* Two fifths.
What part of 5 is 4? *Ans.* Four fifths.
What part of 7 is 6? *Ans.* Six sevenths.
What part of 8 is 7? *Ans.* Seven eighths.
What part of 9 is 6? *Ans.* Six ninths.

3. What part of 9 is 8? *Ans.* Eight ninths.
What part of 10 is 4? *Ans.* Four tenths.
What part of 10 is 5? Is 6? Is 7? What part of 8 is 7? What part is 5? What part is 6? Is 4? Is 2? Is 3? What part of 15 is 12? Is 3? Is 5? Is 6?

4. What part of 9 is 3? Is 4? Is 5? Is 6? Is 7? Is 8? What part of 8 is 7? What part is 6? What part is 5? What part is 4? What part is 3? Is 2?

5. What part of 12 is 2? Is 5? Is 3? Is 4? Is 6? Is 7? Is 4? Is 3? Is 9? Is 10? Is 11? Is 8? What part of 11 is 4? What part is 3? Is 2? Is 6?

6. What part of 15 is 3? Is 5? Is 7? Is 9? Is 10? Is 4? Is 8? Is 2? What part of 18 is 6? Is 9? Is 2? What part of 20 is 10? Is 4? Is 5? Is 6? Is 7? Is 9?

7. What part of 21 is 7? What part is 3? Is 10? Is 9? Is 11? Is 2? Is 4? Is 5? Is 8? Is 12? What part of 24 is 3? Is 4? Is 2? Is 6? Is 8? Is 9? Is 12?

8. What part of 30 is 2? Is 3? Is 5? Is 6? Is 10? What part of 36 is 3? Is 4? Is 6? Is 9? Is 12? Is 18?

LESSON VII.

In which we Divide the Fraction One Half, and Divide other Fractions by Two.

1. If each of the two halves of one be divided into two equal parts, what is the value of each part? What is one half of one half?

2. If each half of a thing be divided into three equal parts, into how many equal parts will the entire thing be divided? What is one third of one half?

3. If one half of a thing be divided into four equal parts, what is each part? What is one fourth of one half?

4. If one half of a thing be divided into five equal parts, what is each part? What is one fifth of one half? What is one sixth of one half? One seventh of one half? One eighth? One ninth? One tenth? One eleventh? One twelfth?

5. What is one half of one third? One half of one fourth? Of one fifth? Of one sixth? Of one seventh? Of one eighth? Of one ninth? Of one tenth? Of one eleventh? Of one twelfth?

6. What is one half of one thirteenth? What is one half of one twentieth? Of one thirtieth? What is one twentieth of one half? One ninth of one half? One fifteenth of one half? One thirteenth of one half? One twenty-fifth of one half? One seventeenth of one half? One half of one seventeenth? One half of one nineteenth? One nineteenth of one half?

LESSON VIII.

In which we Divide the Fraction One Third, and Divide other Fractions by Three.

1. If each of the three thirds of one be divided into two equal parts, what will be the value of each part? What is one half of a third? If each third of a thing be divided into three equal parts, what is the value of each part? What is one third of one third?

2. If each third be divided into four equal parts, what is the value of each part? What is one fourth of one third? What is one fifth of one third? One sixth of one third? What is one seventh of one third? What is one eighth of one third? One ninth of one third? One tenth of one third? One eleventh of one third? One twelfth of one third?

3. What is one third of one fourth? What is one third of one fifth? One third of one sixth? One third of one seventh? One third of one eighth? One third of one ninth? One third of one tenth? One third of one eleventh? Of one twelfth?

4. What is one third of two thirds? What is one third of four thirds? Of five fourths? What is one third of three fourths? One third of three fifths? Of seven sixths? Of eight ninths? Of six sevenths? What is one third of six eighths? One third of seven eighths? One third of four ninths? One third of eight ninths? Of three sevenths? Of eight sevenths? What is one third of five sixths? Of four sixths? Of three sixths? *Of two sixths?*

LESSON IX.

In which we Divide the Fraction One Fourth, and Divide other Fractions by Four.

1. If each of the four equal parts of one be divided in two equal parts, how many parts will there be? What is one half of one fourth? If each be divided into three equal parts, how many parts will there be? What is one third of one fourth? What is one fourth of one fourth? One fifth of one fourth? One sixth of one fourth? One seventh of one fourth? One eighth of one fourth? One ninth of one fourth? One tenth of one fourth? One eleventh of one fourth? One twelfth of one fourth?

2. If one half be divided into four equal parts, how many parts will there be? What is one fourth of one half? What is one fourth of one third? One fourth of one fourth? What is one fourth of one fifth? One fourth of one sixth? Of one seventh? Of one eighth? Of one ninth? Of one tenth? Of one eleventh? Of one twelfth?

3. What is one fourth of two thirds? One fourth of three fourths? One fourth of five fourths? One fourth of six fourths? One fourth of two thirds? One fourth of one seventh? One fourth of five sevenths? One fourth of six eighths? One fourth of nine twelfths? One fourth of eight sevenths? Of seven sixths? Of three eighths? Of nine elevenths? Of eleven tenths? Of five sevenths? Of nine eighths? Of four fifths? What is one fourth of eight sevenths? Of seven *fourths? Of* three ninths?

LESSON X.

In which we Divide the Fraction One Fifth, and Divide other fractions by Five.

1. If each of the five equal parts of one be divided into two equal parts, how many parts will there be? What is one half of one fifth? If each be divided into three equal parts, how many parts will there be? What is one third of one fifth? If each be divided into four equal parts, how many parts will there be? What is one fourth of one fifth? What is one sixth of one fifth? What is one seventh of one fifth? One eighth? One ninth? One tenth? One eleventh? One twelfth?

2. If one half be divided into five equal parts, what will be the value of one part? What is one fifth of one half? If one third be divided into five equal parts, what will be the value of one part? What is one fifth of one third? What is one fifth of one fourth? Of one fifth? Of one sixth? Of one seventh? Of one eighth? Of one ninth? Of one tenth? Of one eleventh? Of one twelfth?

3. What is one fifth of three fourths? One fifth of $\frac{2}{3}$? Of $\frac{7}{4}$? Of $\frac{3}{5}$? Of $\frac{6}{4}$? Of $\frac{3}{4}$? Of $\frac{5}{7}$? Of $\frac{3}{8}$? Of $\frac{5}{4}$? Of $\frac{3}{7}$? Of $\frac{2}{7}$? Of $\frac{2}{5}$? Of $\frac{5}{9}$? Of $\frac{2}{7}$? Of $\frac{6}{5}$? Of $\frac{2}{3}$? Of $\frac{6}{9}$? Of $\frac{7}{2}$? Of $\frac{8}{11}$? Of $\frac{1}{12}$?

4. What one fifth of three sevenths? One fifth of $\frac{2}{7}$? Of $\frac{3}{11}$? Of $\frac{3}{8}$? Of $\frac{7}{9}$? Of $\frac{5}{6}$? Of $\frac{5}{9}$? Of $\frac{5}{8}$? Of $\frac{2}{7}$? Of $\frac{2}{9}$? Of $\frac{3}{11}$? Of $\frac{6}{5}$? Of $\frac{3}{4}$? Of $\frac{8}{11}$? Of $\frac{6}{11}$? Of $\frac{3}{8}$? Of $\frac{5}{9}$? Of $\frac{6}{12}$? Of $\frac{7}{8}$? What is one fifth of $\frac{1}{12}$? Of $\frac{3}{12}$? Of $\frac{4}{12}$? Of $\frac{6}{12}$?

LESSON XI.

In which we Divide the Fraction One Sixth, and Divide other fractions by Six.

1. If each of the six equal parts of one be divided into two equal parts, how many parts will there be? What is one half of one sixth? If each be divided into three equal parts, how many parts will there be? What is one third of one sixth? If each be divided into four equal parts, how many parts will there be? What is one fourth of one sixth? What is one fifth of one sixth? One sixth of one sixth? One seventh? One eighth? One ninth? One tenth? One eleventh? One twelfth?

2. If one half be divided into six equal parts, what will be the value of one part? What is one sixth of one half? If one third be divided into six equal parts, what will be the value of one part? What is one sixth of one third? What is one sixth of one fourth? Of one fifth? Of one sixth? Of one seventh? Of one eighth? Of one ninth? Of one tenth? Of one eleventh? Of one twelfth?

3. What is one sixth of $\frac{2}{3}$? Of $\frac{7}{8}$? Of $\frac{3}{7}$? Of $\frac{5}{11}$? Of $\frac{3}{9}$? Of $\frac{7}{4}$? Of $\frac{4}{7}$? Of $\frac{5}{11}$? Of $\frac{5}{9}$? Of $\frac{7}{11}$? Of $\frac{3}{7}$? Of $\frac{2}{5}$? Of $\frac{3}{8}$? Of $\frac{5}{9}$? Of $\frac{7}{8}$? Of $\frac{3}{8}$? Of $\frac{4}{7}$? Of $\frac{6}{11}$? Of $\frac{3}{7}$? Of $\frac{7}{8}$?

4. What is one sixth of $\frac{1}{8}$? Of $\frac{6}{9}$? Of $\frac{8}{9}$? Of $\frac{8}{11}$? Of $\frac{4}{7}$? Of $\frac{3}{7}$? Of $\frac{4}{11}$? Of $\frac{3}{8}$? Of $\frac{6}{9}$? Of $\frac{4}{5}$? Of $\frac{6}{11}$? Of $\frac{3}{7}$? Of $\frac{4}{9}$? Of $\frac{8}{11}$? Of $\frac{3}{5}$? Of $\frac{4}{12}$? Of $\frac{8}{12}$? Of $\frac{3}{5}$? Of $\frac{6}{6}$? Of $\frac{7}{7}$? Of $\frac{8}{9}$?- What is one sixth of $\frac{1}{6}$? Of $\frac{4}{7}$? *Of* $\frac{2}{7}$? *Of* $\frac{4}{8}$? Of $\frac{5}{9}$?

LESSON XII.

In which we Divide the Fraction One Seventh, and Divide other fractions by Seven.

1. If each of the seven equal parts of one be divided into two equal parts, how many parts will there be? What is one half of one seventh? If each part be divided into three equal parts, how many parts will there be? What is one third of one seventh? What is one fourth of one seventh? What is one fifth? One sixth? One seventh? One eighth? One ninth? One tenth? One eleventh? One twelfth?

2. If one half be divided into seven equal parts, what will be the value of one part? What is one seventh of one half? If one third be divided into seven equal parts, what will be the value of one part? What is one seventh of one third? What is one seventh of one fourth? One seventh of one fifth? Of one sixth? Of one seventh? Of one eighth? Of one ninth? Of one tenth? Of one eleventh? Of one twelfth?

3. What is one seventh of $\frac{3}{4}$? One seventh of $\frac{5}{8}$? What is one seventh of $\frac{3}{8}$? Of $\frac{2}{7}$? Of $\frac{3}{11}$? Of $\frac{5}{11}$? Of $\frac{3}{5}$? Of $\frac{7}{8}$? Of $\frac{7}{9}$? Of $\frac{6}{9}$? Of $\frac{8}{11}$? Of $\frac{8}{7}$? Of $\frac{3}{7}$? Of $\frac{5}{9}$?. Of $\frac{3}{8}$? Of $\frac{5}{8}$? Of $\frac{3}{10}$? Of $\frac{7}{10}$? Of $\frac{8}{10}$? Of $\frac{5}{10}$? Of $\frac{4}{5}$? Of $\frac{6}{7}$? Of $\frac{8}{11}$?

4. What is one seventh of $\frac{1}{8}$? Of $\frac{3}{8}$? Of $\frac{5}{8}$? Of $\frac{3}{7}$? What is one seventh of $\frac{6}{11}$? Of $\frac{8}{10}$? Of $\frac{1}{9}$? Of $\frac{3}{10}$? Of $\frac{5}{11}$? Of $\frac{3}{12}$? Of $\frac{8}{12}$? Of $\frac{5}{11}$? Of $\frac{6}{11}$? Of $\frac{4}{10}$? Of $\frac{3}{7}$? Of $\frac{4}{9}$? Of $\frac{3}{10}$? Of $\frac{6}{10}$? Of $\frac{8}{10}$? Of $\frac{3}{7}$? What is one *seventh of $\frac{1}{9}$?* Of $\frac{4}{9}$? Of $\frac{3}{9}$? Of $\frac{6}{11}$? Of $\frac{7}{12}$?

LESSON XIII.

In which we Divide the Fraction One Eighth, and Divide other fractions by Eight.

1. If each of the eight equal parts of one be divided by two, how many parts will there be? What is one half of one eighth? If each part be divided into three equal parts, how many parts will there be? What is one third of one eighth? What is one fourth of one eighth? One fifth? One sixth? One seventh? One eighth? One ninth? One tenth? One eleventh? One twelfth?

2. If one half be divided into eight equal parts, what will be the value of one part? What is one eighth of one half? If one third be divided into eight equal parts, what is the value of one of the parts? What is one eighth of one third? One eighth of one fourth? Of one fifth? Of one sixth? Of one seventh? Of one eighth? Of one ninth? Of one tenth? Of one eleventh? Of one twelfth?

3. What is one eighth of three fourths? One eighth of $\frac{5}{7}$? Of $\frac{3}{8}$? Of $\frac{2}{9}$? Of $\frac{3}{11}$? Of $\frac{5}{9}$? Of $\frac{3}{12}$? Of $\frac{1}{12}$? Of $\frac{3}{7}$? What is one eighth of $\frac{7}{11}$? Of $\frac{6}{4}$? Of $\frac{3}{11}$? Of $\frac{7}{9}$? Of $\frac{4}{7}$? Of $\frac{3}{7}$? Of $\frac{4}{5}$? Of $\frac{3}{5}$? Of $\frac{9}{11}$? Of $\frac{3}{11}$?

4. What is one eighth of six sevenths? One eighth of $\frac{3}{4}$? Of $\frac{3}{8}$? Of $\frac{4}{8}$? Of $\frac{5}{11}$? Of $\frac{4}{9}$? Of ^{5}? Of $\frac{3}{9}$? Of $\frac{6}{5}$? Of $\frac{4}{11}$? Of $\frac{3}{7}$? Of $\frac{7}{9}$? Of $\frac{5}{9}$? Of $\frac{-}{11}$? Of $\frac{5}{12}$? Of $\frac{6}{7}$? Of $\frac{6}{9}$? Of $\frac{7}{8}$? Of $\frac{6}{12}$? Of $\frac{-}{12}$? Of $\frac{9}{11}$? Of $\frac{6}{9}$? Of $\frac{7}{8}$? What is one eighth of $\frac{5}{4}$? Of $\frac{6}{1}$? Of $\frac{3}{5}$? Of $\frac{5}{9}$? Of $\frac{7}{12}$? Of $\frac{8}{8}$? Of $\frac{7}{12}$? Of $\frac{9}{12}$? Of $\frac{11}{12}$? Of $\frac{9}{12}$? *Of* $\frac{6}{7}$?

LESSON XIV.

In which we Divide the Fraction One Ninth, and Divide other fractions by Nine.

1. If each of the nine equal parts of one be divided into two equal parts, how many parts will there be? What is one half of one ninth? If each of the nine parts be divided into three equal parts, how many parts will there be? What is one third of one ninth? If each part be divided into four equal parts, how many parts will there be? What is one fourth of one ninth? What is one fifth of one ninth? One seventh? One eighth? One ninth? One tenth? One eleventh? One twelfth?

2. If one half be divided into nine equal parts, what will be the value of one part? What is one ninth of one half? If one third be divided into nine equal parts, what will be the value of one of the parts? What is one ninth of one third? What is one ninth of one fourth? Of one fifth? Of one sixth? Of one seventh? Of one eighth? Of one ninth? Of one tenth? Of one eleventh? Of one twelfth?

3. What is one ninth of three fourths? One ninth of $\frac{3}{9}$? Of $\frac{7}{8}$? Of $\frac{5}{7}$? Of $\frac{5}{9}$? Of $\frac{7}{9}$? Of $\frac{7}{12}$? Of $\frac{6}{11}$? Of $\frac{2}{3}$? Of $\frac{7}{12}$? Of $\frac{3}{9}$? Of $\frac{5}{11}$? Of $\frac{8}{9}$?

4. What is one ninth of three tenths? Of $\frac{3}{11}$? Of $\frac{6}{7}$? Of $\frac{5}{8}$? Of $\frac{3}{5}$? Of $\frac{7}{11}$? Of $\frac{6}{8}$? Of $\frac{7}{10}$? Of $\frac{3}{5}$? Of $\frac{9}{5}$? Of $\frac{5}{7}$? Of $\frac{3}{11}$? Of $\frac{4}{7}$? Of $\frac{3}{8}$? Of $\frac{4}{11}$? Of $\frac{4}{10}$? Of $\frac{3}{12}$? Of $\frac{6}{7}$? Of $\frac{8}{11}$? Of $\frac{3}{7}$? Of $\frac{8}{9}$? Of $\frac{8}{5}$? Of $\frac{2}{9}$? Of $\frac{4}{9}$? Of $\frac{8}{10}$? Of $\frac{9}{11}$? Of $\frac{11}{12}$? Of $\frac{7}{6}$? Of $\frac{4}{5}$? Of $\frac{9}{12}$? Of $\frac{9}{8}$? Of $\frac{7}{6}$? Of $\frac{8}{12}$? Of $\frac{2}{7}$? Of $\frac{10}{9}$?

LESSON XV.

In which we Divide the Fraction One Tenth, and Divide other fractions by Ten.

1. If each of the ten equal parts of one be divided into two equal parts, how many parts will there be? What is one half of one tenth? If each of the ten equal parts be divided by three, how many parts will there be? What is one third of one tenth? If each be divided into four equal parts, how many will there be? What is one fourth of one tenth? One fifth? One sixth? One seventh? One eighth? One ninth? One tenth? One eleventh? One twelfth?

2. If one half be divided into ten equal parts, what will be the value of one part? What is one tenth of one half? If a third be divided into ten equal parts, what will be the value of one of the parts? What is one tenth of one third? What is one tenth of one fourth? One tenth of one fifth? Of one sixth? Of one seventh? Of one eighth? Of one ninth? Of one tenth? Of one eleventh? Of one twelfth?

3. What is one tenth of $\frac{3}{5}$? One tenth of $\frac{5}{8}$? Of $\frac{3}{7}$? Of $\frac{4}{9}$? Of $\frac{3}{8}$? Of $\frac{6}{9}$? Of $\frac{4}{12}$? Of $\frac{6}{9}$? Of $\frac{7}{11}$? Of $\frac{4}{7}$? Of $\frac{5}{12}$? Of $\frac{4}{8}$? Of $\frac{3}{7}$? Of $\frac{9}{12}$? Of $\frac{6}{7}$? Of $\frac{3}{5}$? Of $\frac{3}{8}$? Of $\frac{4}{9}$? Of $\frac{3}{7}$? Of $\frac{2}{5}$? Of $\frac{3}{5}$? Of $\frac{4}{7}$? Of $\frac{3}{6}$?

4. What is one tenth of $\frac{4}{7}$? Of $\frac{3}{8}$? Of $\frac{5}{6}$? Of $\frac{2}{11}$? Of $\frac{3}{4}$? Of $\frac{4}{11}$? Of $\frac{7}{12}$? Of $\frac{3}{9}$? Of $\frac{4}{12}$? Of $\frac{5}{8}$? Of $\frac{5}{9}$? Of $\frac{6}{7}$? Of $\frac{6}{10}$? Of $\frac{7}{11}$? Of $\frac{8}{11}$? Of $\frac{9}{11}$? Of $\frac{11}{11}$? Of $\frac{5}{10}$? Of $\frac{3}{7}$? Of $\frac{4}{12}$? Of $\frac{3}{8}$? Of $\frac{5}{7}$? Of $\frac{4}{11}$? Of $\frac{3}{8}$? Of $\frac{3}{11}$? Of $\frac{6}{12}$? Of $\frac{7}{10}$?

LESSON XVI.

In which we Divide the Fraction One Eleventh, and Divide other fractions by Eleven.

1. If each of the eleven equal parts of one be divided into two equal parts, how many parts will there be? What is one half of one eleventh? If each of the eleven equal parts be divided into three, how many parts will there be? What is one third of one eleventh? If each part be divided into four, how many parts will there be? What is one fourth of one eleventh? What is one fifth? One sixth? One seventh? One eighth? One ninth? One tenth? One eleventh? One twelfth?

2. If one half be divided into eleven equal parts, what will be the value of each part? What is one eleventh of one half? If one third be divided into eleven equal parts, what is the value of one part? What is one eleventh of one third? One eleventh of one fourth? Of one fifth? Of one sixth? Of one seventh? Of one eighth? Of one ninth? Of one tenth? Of one eleventh? Of one twelfth?

3. What is one eleventh of $\frac{3}{8}$? Of $\frac{5}{11}$? Of $\frac{4}{7}$? Of $\frac{5}{9}$? Of $\frac{4}{9}$? Of $\frac{3}{5}$? Of $\frac{2}{7}$? Of $\frac{2}{11}$? Of $\frac{[illegible]}{8}$? Of [illegible]? Of $\frac{2}{5}$? Of $\frac{5}{11}$? Of $\frac{3}{8}$? Of $\frac{3}{7}$? Of $\frac{4}{11}$? Of $\frac{7}{5}$? Of $\frac{3}{9}$? Of $\frac{5}{7}$? Of $\frac{3}{8}$? Of $\frac{5}{11}$? Of $\frac{5}{6}$? Of $\frac{8}{11}$? Of $\frac{8}{9}$? Of $\frac{3}{11}$?

4. What is one eleventh of $\frac{5}{11}$? Of $\frac{4}{7}$? Of $\frac{3}{7}$? Of $\frac{6}{11}$? Of $\frac{3}{8}$? Of $\frac{7}{9}$? Of $\frac{5}{11}$? Of $\frac{8}{11}$? Of $\frac{8}{9}$? Of $\frac{8}{10}$? Of $\frac{7}{11}$? Of $\frac{4}{12}$? Of $\frac{3}{7}$? Of $\frac{2}{5}$? Of $\frac{3}{8}$? Of $\frac{4}{9}$? Of $\frac{5}{9}$? Of $\frac{3}{11}$? Of $\frac{2}{5}$? Of $\frac{3}{8}$? Of $\frac{7}{8}$? Of $\frac{3}{9}$? Of $\frac{4}{6}$? Of $\frac{2}{7}$? Of $\frac{3}{8}$? Of $\frac{3}{4}$? Of $\frac{6}{8}$? Of $\frac{2}{6}$? Of $\frac{6}{7}$?

LESSON XVII.

In which we Divide the Fraction One Twelfth, and Divide other fractions by Twelve.

1. If each of the twelve equal parts of one be divided into two equal parts, how many parts will there be? What is one half of one twelfth? If each of the twelve equal parts be divided into three parts, what is one of the parts? What is one third of one twelfth? What is one fourth of one twelfth? One fifth? One sixth? One seventh? One eighth? One ninth? One tenth? One eleventh? One twelfth?

2. If one half be divided into twelve equal parts, what will be the value of one part? What is one twelfth of one half? If one third be divided into twelve equal parts, what will be the value of one part? What is one twelfth of one third? Of one fourth? Of one fifth? Of one sixth? Of one seventh? Of one eighth? Of one ninth? Of one tenth? Of one eleventh? Of one twelfth?

3. What is one twelfth of $\frac{3}{11}$? Of $\frac{4}{5}$? Of $\frac{7}{9}$? Of $\frac{3}{8}$? Of $\frac{4}{9}$? Of $\frac{7}{12}$? Of $\frac{6}{11}$? Of $\frac{3}{11}$? Of $\frac{7}{10}$? Of $\frac{3}{10}$? Of $\frac{5}{10}$? Of $\frac{6}{8}$? Of $\frac{5}{8}$? Of $\frac{6}{7}$? Of $\frac{8}{11}$? Of $\frac{7}{12}$? Of $\frac{3}{5}$? Of $\frac{5}{9}$? Of $\frac{7}{12}$? Of $\frac{3}{8}$? Of $\frac{2}{9}$? Of $\frac{8}{11}$? Of $\frac{6}{5}$?

4. What is one twelfth of $\frac{6}{8}$? Of $\frac{7}{9}$? Of $\frac{2}{7}$? Of $\frac{5}{8}$? Of $\frac{6}{4}$? Of $\frac{3}{11}$? Of $\frac{8}{9}$? Of $\frac{3}{5}$? Of $\frac{9}{9}$? Of $\frac{9}{11}$? Of $\frac{1}{11}$? Of $\frac{6}{10}$? Of $\frac{7}{10}$? Of $\frac{5}{10}$? Of $\frac{8}{10}$? Of $\frac{9}{10}$? Of $\frac{7}{8}$? Of $\frac{8}{9}$? Of $\frac{3}{9}$? Of $\frac{4}{9}$? Of $\frac{2}{5}$? Of $\frac{7}{12}$? Of $\frac{8}{8}$? Of $\frac{2}{9}$? Of $\frac{9}{11}$? Of $\frac{9}{12}$? Of $\frac{5}{6}$? Of $\frac{9}{4}$? Of $\frac{3}{7}$? Of $\frac{2}{8}$? Of $\frac{3}{8}$? *Of* $\frac{8}{11}$? *Of* $\frac{10}{11}$? Of $\frac{4}{5}$? Of $\frac{9}{7}$? Of $\frac{11}{8}$? Of $\frac{5}{8}$?

LESSON XVIII.

In which we find the cost of a thing when we know the cost of a fractional part of it.

1. If half a load of wood cost two dollars, what will the entire load cost? *Ans.* Four dollars.

2. If one third of a yard of cloth cost two dollars, what will a yard cost? Evidently three times as much, viz.: Six dollars. At the same price what will two thirds of a yard cost? First, find the cost of one third, and then multiply by 2, as two thirds will cost twice as much as one third.

3. If one fourth of a pound of tea cost 15 cents, what will one pound cost? What will 2 pounds cost? Three pounds? If three fourths of a yard of cloth cost six dollars, what will one fourth of a yard cost? What will a yard cost? What will two yards cost?

4. If one sixth of a load of wood cost half a dollar, what will a load cost? What will two sixths of a load cost? Four sixths? Five sixths? Three sixths?

5. If $\frac{5}{8}$ of a pound of sugar cost 5 cents, what will $\frac{1}{8}$ of a pound cost? What will $\frac{7}{8}$ of a pound cost? Also, $\frac{6}{8}$? $\frac{4}{8}$? $\frac{3}{8}$? $\frac{2}{8}$?

6. If $\frac{5}{9}$ of a yard of cotton cloth cost 10 cents, how much will one ninth of a yard cost? How much will $\frac{3}{9}$ cost? $\frac{7}{9}$? $\frac{8}{9}$? $\frac{6}{9}$? $\frac{4}{9}$? $\frac{2}{9}$? What will the yard cost?

7. If $\frac{1}{10}$ of a barrel of flour cost 50 cents, or half a dollar, what will the entire barrel cost? What will be the cost of $\frac{3}{10}$ of it? Of $\frac{4}{10}$? Of $\frac{7}{10}$? Of $\frac{9}{10}$? Of $\frac{8}{10}$? Of $\frac{5}{10}$?

8. If $\frac{3}{12}$ of a load of wood cost one dollar, what will four twelfths cost? $\frac{5}{12}$? $\frac{6}{12}$? $\frac{7}{12}$? $\frac{8}{12}$? $\frac{9}{12}$? $\frac{10}{12}$? $\frac{11}{12}$?

9. If $\frac{3}{7}$ of a thing cost forty-two dollars, what will one seventh cost? What will the entire thing cost? What will $\frac{4}{7}$ cost? $\frac{5}{7}$? $\frac{6}{7}$? $\frac{2}{7}$?

10. If $\frac{7}{9}$ of a bushel of wheat cost 70 cents, what will a bushel cost? What will be the cost of $\frac{5}{9}$ of a bushel? Of $\frac{4}{9}$? Of $\frac{6}{9}$? Of $\frac{3}{9}$? Of $\frac{2}{9}$? Of $\frac{8}{9}$?

11. If $\frac{3}{8}$ of a quire of paper cost 24 cents, what will a quire cost? What will $\frac{2}{8}$ of a quire cost? $\frac{4}{8}$? $\frac{5}{8}$? $\frac{6}{8}$? $\frac{7}{8}$? $\frac{8}{8}$?

12. If $\frac{3}{12}$ of a yard of cloth cost 75 cents, what will one yard cost? What will $\frac{3}{12}$ of a yard cost? $\frac{4}{12}$? $\frac{2}{12}$? $\frac{6}{12}$? $\frac{7}{12}$? $\frac{8}{12}$? $\frac{9}{12}$? $\frac{11}{12}$?

13. If $\frac{5}{11}$ of a bag of coffee cost fifteen dollars, what will the entire bag cost? What will $\frac{2}{11}$ of it cost? What will $\frac{6}{11}$ cost? What will $\frac{8}{11}$ cost? What will $\frac{7}{11}$ cost? What will $\frac{9}{11}$ cost? What will $\frac{10}{11}$ cost?

LESSON XIX.

In which we consider how many times one number is greater than another.

1. Two is how many times 1? Four is how many times 1? How many times 2? How many times one half? Eight is how many times 2? How many times 4? How many times 1?

2. Six is three times what number? Is 2 times what number? Is 6 times what number? Is 12 times what number? Nine is 3 times what number? Is 9 times what number? Is 18 times what number? Is 27 times what number? How many thirds in 9?

3. Seven is 3 times what number? *Ans.* Of $\frac{7}{3}$ or $2\frac{1}{3}$.
Eight is 5 times what number? *Ans.* Of $\frac{8}{5}$ or $1\frac{3}{5}$.
Five is 4 times what number? *Ans.* Of $\frac{5}{4}$ or $1\frac{1}{4}$.

4. Six is 4 times what number? Eight is 6 times what number? Nine is 7 times what number? Twelve is 7 times what number? Sixteen is 5 times what number? Seventeen is nine times what number? Thirteen is 5 times what number? Nineteen is 6 times what number?

5. Fourteen is 3 times what number? Fifteen is 6 times what number? Twenty-four is 4 times what number? Is 6 times what number? Is 5 times what number? Is 9 times what number?

6. Thirteen is 4 times what number? Is 5 times what number? Is 6 times what number? Is 7 times what number? Is 8 times what number? Is 9 times what number? Is 10 times what number? Is 11 times what number?

7. Sixteen is 4 times what number? Is 5 times what number? Is 8 times what number? Is 16 times what number? Is 32 times what number? Is 48 times what number? Is 12 times what number? Is 11 times what number?

LESSON XX.

In which we consider how many parts one number is of another.

1. One is twice what number? Is 3 times what number? Is 4 times what number? Is 5 times what number? Is 6 times what number? Is 7 times what number?

2. Two is 2 times what number? Is 4 times what number? Is 3 times what number? Is 6 times what number? Is 5 times what number? Is 2 times what number?

3. Three is 3 times what number? Is 6 times what number? Is 9 times what number? Is 5 times what number? Is 4 times what number? Is 6 times what number? Is 8 times what number?

4. Four is 4 times what number? Is 8 times what number? Is 12 times what number? Is 16 times what number? Is 20 times what number? Is 24 times what number? Is 28 times what number? Is 36 times what number? Is 40 times what number?

5. Five is 5 times what number? Is 10 times what number? Is 15 times what number? Is 20 times what number? Is 25 times what number? Is 30 times what number? Is 35 times what number? Is 40 times what number? Is 45 times what number? Is 50 times what number?

6. Six is 6 times what number? Is 12 times what number? Is 18 times what number? Is 24 times what number? Is 30 times what number? Is 36 times what number? Is 42 times what number? Is 48 times what number? Is 54 times what number? Is 60 times what number?

7. Seven is 7 times what number? Is 14 times what number? Is 21 times what number? Is 28 times what number? Is 35 times what number? Is 42 times what number? Is 49 times what number? Is 56 times what number? Is 63 times what number? Is 70 times what number?

8. Eight is 8 times what number? Is 16 times what number? Is 24 times what number? Is 32 times what number? Is 40 times what number? Is 48 times what number? Is 56 times what number? Is 64 times what number? Is 72 times what number? Is 80 times what number?

9. Nine is 9 times what number? Is 18 times what number? Is 27 times what number? Is 36 times what number? Is 45 times what number? Is 54 times what number? Is 63 times what number? Is 72 times what number? Is 81 times what number? Is 90 times what number?

10. Ten is 10 times what number? Is 20 times what number? Is 30 times what number? Is 40 times what number? Is 50 times what number? Is 60 times what number? Is 70 times what number? Is 80 times what number? Is 90 times what number? Is 100 times what number?

11. Eleven is 11 times what number? Is 22 times what number? Is 33 times what number? Is 44 times what number? Is 55 times what number? Is 66 times what number? Is 77 times what number? Is 88 times what number? Is 99 times what number? Is 110 times what number?

12. Twelve is 12 times what number? Is 24 times what number? Is 36 times what number? Is 48 times what number? Is 60 times what number? Is 72 times what number? Is 84 times what number? Is 96 times what number? Is 108 times what number? Is 120 times what number? Is 132 times what number? Is 144 *times what* number? Is 156 times what number?

LESSON XXI.

Miscellaneous Questions.

1. What part of a cent is one mill? Is two mills? Three mills? What part of a dime is 4 cents? Is 6 cents? Is 8 cents? Is 10 cents?

2. What part of a dollar is 5 dimes? Is 8 dimes? Is 9 dimes? What part of an eagle is 6 dollars? Is 8 dollars? Is 9 dollars?

3. What part of a penny is one farthing? What part of a shilling is one farthing? What part of a shilling is 3 pence? What part of a pound is 2 shillings? Is 4 shillings? Is 5 shillings?

4. What part of a pennyweight is one grain Troy? What part is two grains? Is four? What part of an ounce is one pennyweight? Is four pennyweights? Is 10 pennyweights? What part of a pound is one ounce? Is 3 ounces? Is 6 ounces?

5. What part of a scruple is one grain Apothecaries' weight? What part is 2 grains? Is 5 grains? What part of a dram is one scruple? Is 2 scruples? What part of an ounce is one dram? Is 4 drams? What part of a pound is one ounce? Is 2 ounces? Is 4? Is 6?

6. What part of an ounce is one dram Apothecaries' weight? What part is 2 drams? Is 4 drams? Is 8 drams? What part of a pound is one ounce? Is 4 ounces? Is 8 ounces? Is 12 ounces? What part of a quarter is 1 pound? Is 4 pounds? Is 7 pounds? What part of a ton is one hundred weight? Is two hundred? Is five hundred?

SUPPLEMENT.

EXAMPLES IN ADDITION.

LESSON I.

1. What is the sum of 7 and 8?
Place the numbers under each other.

7
8
sum, 15

2. What is the sum of 26, 40, and 20?
Place the units under the units, and the tens under the tens.

26
40
20
sum, 86

3 What is the sum of 81 and 20?

81
20
sum, 101

[4]	[5]	[6]	[7]
601	3701	28	35
270	2104	36	99
871	5805	64	134

[8]	[9]	[10]	[11]
1801	219	612	1043
1413	608	103	8971

[12]	[13]	[14]	[15]
604	2704	3941	217
367	2189	2103	369
461	4173	1988	789
1432	9066		

LESSON II.

[1]	[2]	[3]
8425	4075	3278
362	621	4102
8787	4696	7380

[4]	[5]	[6]
32704	57391	12361
2604	3261	8721
3103	10123	8055
38411	70775	29137

7. A boy gives 8 cents for a top, 3 cents for an orange, and 25 cents for a knife: how much do they all cost him?

8. A father gives his son 45 cents, his mother gives him 12 cents, and his sister ten cents: how much does he receive in all?

9. If John has 8 marbles, Charles 5, and William 7 how many have they in all?

10. James buys a picture for 12 cents, a top for 9 cents, and a penknife for 37 cents: how much money does he expend?

11. What is the sum of 8 and 6 and 5? Also, of 9 and 12 and 4?

12. What is the sum of the numbers nine, ten, eleven, and twelve?

13. What is the sum of the numbers six, eight, ten, and fifteen?

14. What is the sum of fifty-five, sixty, and forty-seven? Also of 56 and 91 and of 67 and 81

LESSON III.

1. What is the sum of 26, 45, 38 and 79?
Ans. 188.

2. What is the sum of 8635, 2194, 7421, 5063, 2176, and 1245? *Ans.* 26734.

3. What is the sum of 96973, 3741, and 9299?
Ans. 110013.

4. What is the sum of 81325, 6784, and 2130?
Ans. 90239.

5. A merchant settles with his creditors, and finds that he owes Mr. Jones 60 dollars, Mr. Wilson 150 dollars, Mr. Brown 240 dollars, and Mr. Whiting 100 dollars: how much does he owe in all?

6. A man borrowed a sum of money, and paid at one time 267 dollars, and afterwards paid the remainder, 325 dollars: how much did he borrow? *Ans.* $592.

7. The mail route from Albany to New York is 144 miles, from New York to Philadelphia 90 miles, from Philadelphia to Baltimore 98 miles, and from Baltimore to Washington City 38 miles: what is the distance from Albany to Washington?

8. Charles purchases at one time 763 marbles, at another 4663, at another 37, at another 49763, at another 6178, and at another 671: how many did he buy in all?
Ans. 62075.

9. A merchant bought cloth as follows; at one time 4550 yards, at another 2470, at another 936, at another 700: how many did he buy in all?

10. Mr. Liberal at one time gives away 4638 dollars, at another 216 dollars, at another 8329 dollars, at another 1212: how much does he give away in all?

LESSON IV.

1. What is the sum of 3607, 1028 369, and 512? *Ans.* 5516.

2 A grocer bought a quantity of sugar for $827,27; a quantity of fish for $295,06; a quantity of coffee for $321, and a lot of tea for $100. What did he pay for the whole?

3. A father divided his property among his four sons and his widow: to his eldest he gave $6591, to the second $4862,25, to the third $4000, to the fourth $3969,75, and to the widow $4583. How much was he worth? *Ans.* $24006.

4. George Washington was born in the year 1732, and died at the age of 67. In what year did he die?

5. From the creation of the world to the deluge was 1556 years, and from that time to the time of our Savior 2348 years. How old is the world at the present time?

6. A man bought a farm, for which he paid $3678,25: he afterwards paid $300 for clearing, $257,75 for fences, and $627,25 for out-buildings. How much did the farm cost him?

7. A drover paid $327,50 for sheep, $375,27 for cattle, $967,28 for horses, and $575,87 for hogs. What did he pay in all? *Ans.* $2245,92.

8. What is the sum of fifteen millions and forty-nine, fifteen thousand and sixty, eighteen hundred and forty-nine, and one billion and sixteen?

9. A merchant deposited in bank at one time $6750,25, at another $5375,87, at another $2756,40, at another $375,67. How much did he deposit in all?

Ans. $15258,19.

EXAMPLES IN SUBTRACTION.

LESSON I.

1. What is the difference between 26 and 13?

We place the less number under the greater, and then take their difference.

26
13
13

[2]		[3]	[4]
127	minuend	427	646
25	subtrahend	145	214
102	remainder	282	432

[5]	[6]	[7]
12789	62781	74127
3046	21426	63127

[8]	[9]	[10]
87416	36928	32741
2742	2742	21429

11. What is the difference between sixty-nine thousand, and three hundred and fifty?

12. What is the difference between one hundred thousand, and two hundred and twenty-one?

13. What is the difference between six hundred and seventy-five, and four hundred and fifty-six?

14. A man gives eighty-five cents to five children. To the eldest he gives twenty cents; to the next eldest eighteen cents; to the next sixteen cents; to the next fourteen cents; and to the next twelve cents. How *much remains for* the youngest?

LESSON II.

1. From one hundred and forty-five take one hundred and fourteen. Set the less number under the greater, and then subtract.

145
114
Difference, 31

2. A man bought a horse for sixty-five dollars and a colt for eight dollars: how much more did he give for the horse than for the colt?

3. A man bought a cow for twenty-five dollars and a calf for six dollars: how much more did he give for the cow than for the calf?

4. A boy bought forty-six apples; he gave eight to William, nine to Charles, and four to James: how many has he left?

5. James has thirty-seven cents; he buys a penknife for eighteen cents, a jews-harp for three cents, and gives seven cents away: how much has he left?

6. Charles has seventy-five cents; he pays thirty cents for a pair of mittens, twenty-five cents for a knife, eight cents for a top, and three cents for marbles: how much has he left?

7. There are sixty-one books in a case; James takes out five, John eight, Charles seven, and William one: how many are left?

8. There are one hundred apples in a pile; William takes eighteen, Mary takes ten, Nancy fifteen, and Margaret twelve: how many are left?

9. A man owes sixty dollars; at one time he pays fifteen dollars, at another twelve dollars, at another five dollars, and three dollars at another: how much will he *still owe?*

LESSON III.

1. A man owes \$627,50 and pays \$327,25: how much remains due? *Ans.* 300,25.

2. The number of inhabitants in London is 1259000, and in New York about 375000: by how many does the population of London exceed that of New York?

3. Columbus discovered America in the year 1492: how many years to the present time?

4. The Independence of the United States was declared in 1776: how many years to the present date?

5. A man bought sixty casks of wine, each containing 63 gallons, and then sold 25 casks: how many casks had he left? *Ans.* 35 *casks.*

6. A man deposited \$6725,69 in bank, and then drew out \$3275,29: how much had he remaining?

7. The population of Great Britain is 21500000, and that of France 32 millions: what is the difference?

8. What is the difference between four millions six hundred and forty, and three millions four thousand and twenty-one?

9. What is the difference between one thousand sixty-nine dollars and twenty cents, and forty-nine dollars and five cents? *Ans.* \$1020,15.

10. What is the difference between four hundred thousand dollars and forty-one cents, and four thousand dollars and forty-two cents?

11. What time elapsed between the years 1625 and 1840? Ans. 215 years.

EXAMPLES IN MULTIPLICATION.

LESSON I.

1. Multiply 21 by 6.

We place the multiplier under the multiplicand, and then multiply each figure of the upper line by 6.

21
6
126

[2]		[3]	[4]
327	multiplicand	104	16
3	multiplier	4	2
981	product	416	32

[5]	[6]	[7]
271	327	402
21	32	41
271	654	402
542	981	1608
5691	10464	16482

[8]	[9]	[10]
3061	1046	8071
312	491	214

[11]	[12]	[13]
3487	6704	27041
414	614	313
1443618	4116256	8463833

LESSON II.

[1]	[2]	[3]
3245	8745	4029
327	621	108
1061115	5430645	435132

[4]	[5]	[6]
13417	14721	27413
621	627	914

7. What is the weight of ten bags of coffee, each containing 48 pounds? *Ans.* 480 pounds.

8. What is the cost of 16 yards of cloth, at five dollars a yard?

9. What will 55 yards of cloth cost, at 37 cents a yard? *Ans.* $20,35.

10. What will 300 bushels of wheat cost, at $1,25 a bushel? *Ans.* $375.

11. What will 85 pounds of tea come to, at one dollar a pound? *Ans.* $85.

12 What will a cask of wine cost, containing 29 gallons, at $2,75 a gallon? *Ans.* $79,75.

13. What will 300 hats cost, at $3,25 apiece? *Ans.* $975.

14. What will 9704 boxes of oranges cost, at $3,50 a box? *Ans.* $33964.

15. What will 356 sheep cost, at $3,25 a head? *Ans.* $1157.

16. What will be the cost of 47 barrels of apples, at $1 75 a barrel? Ans. $82,25.

LESSON III.

1. What is the product of 278904 by 2?
Ans. 557808.

2. What is the product of 678741 by 3?
Ans. 2036223.

3. What is the product of 3021945 by 4?
Ans. 12087780.

4. What is the product of 28432 by 8?
Ans. 227456.

5. What is the product of 82798 by 9?
Ans. 745182.

6. What is the product of 6789 by 11?
Ans. 74679.

7. What is the product of 49604 by 12?
Ans. 595248.

8. What is the product of 365 by 84?
Ans. 30660.

9. What is the product of 37864 by 209?
Ans. 7913576.

10. What is the product of 576784 by 64?
Ans. 36914176.

11. What is the product of 596875 by 144?
Ans. 85950000.

12. What is the product of 675 by 10?
Ans. 6750.

13. What is the product of 7859 by 100?
Ans. ———

LESSON IV.

1. What is the product of 8797 by 1000?
Ans. ———.

2 What is the product of 97672 by 10?
Ans. ———.

3. What is the product of 6498 by 100?
Ans. ———.

4. What is the product of 8141 by 100000?
Ans. ———.

5. What is the product of 296200 by 875000?
Ans. 259175000000.

6. What is the product of 359260 by 304000?
Ans. 109215040000.

7. What is the product of 4871000 by 270000?
Ans. 1315170000000.

8 What is the product of 21200 by 70?
Ans. 1484000.

9. What is the product of 209402 by 72?
Ans. 15076944.

10. What is the product of 86972 by 1208?
Ans. 105062176.

11. What is the product of 47042 by 91?
Ans. 4280822.

12. What is the product of 34293 by 74?
Ans. 2537682.

13. What is the product of 50406 by 8050?
Ans. 405768200

EXERCISES IN DIVISION.

LESSON I.

Short Division.

1. Divide 36 by 4.

We place the divisor, 4, on the left of the dividend, 36

divisor. dividend.

4)36

9 quotient.

2. Divide 360 by 2.

2)360

180

3. Divide 480 by 3.

3)480

160

4. Divide 328 by 4.

4)328

82

5. Divide 625 by 5.

5)625

125

6. Divide 930 by 6.

6)930

155

7. Divide 889 by 7.

7)889

127

8. Divide 1728 by 8.

8)1728

216

9. Divide 1269 by 9.

9)1269

141

LESSON II.

Exercises in Short Division.

1. If 847 yards of cloth be equally divided between 4 men, how much will each receive? *Ans.* 211¾ yards.

2. A merchant bought cloth, for which he paid 4 dollars a yard, and paid in all 328 dollars: how many yards did he buy? *Ans.* 82.

3. If six men have a debt to pay of twelve hundred dollars, how much must each one pay? *Ans.* $200.

4. A goldsmith sold six dozen of spoons, and received for them 144 dollars: how much did he receive per dozen? *Ans.* $24.

5. A farmer purchases a lot of sheep at $3 apiece for which he paid $3294: how many did he buy? *Ans.* 1098.

6. A drover bought a drove of hogs at $9 apiece; they cost him $9837: how many did he buy? *Ans.* 1093.

7. At a general training, a regiment of men find their bill to be $2961, and each man is required to pay three dollars: how many men are there in the regiment? *Ans.* 987.

8. A man paid $256 for hay, at $8 a ton: how many tons did he buy? *Ans.* 32.

9. Mr. Wilson agreed to build a road for $8 a rod, and received $2560: how many rods did he make? *Ans.* 320.

10. A regiment of soldiers being paid off, received $6780, each man receiving $10: how many men were there in the regiment? Ans. 678.

LESSON III.

Exercises in Long Division.

1. Divide 338 by 26.

Place the divisor on the left of the dividend, and the quotient at the right.

divisor. dividend. quotient.
26)338(13
26
78
78

2. Divide 1748 by 46.

46)1748(38
138
368
368

3. Divide 30660 by 84. *Ans.* 365.
4. Divide 5655 by 87. *Ans.* 65.
5. Divide 5850 by 90. *Ans.* 65.
6. Divide 4646 by 202. *Ans.* 23
7. Divide 9696 by 404. *Ans.* 24.
8. Divide 2624 by 64 *Ans.* 41.
9. Divide 1756 by 19. *Ans.* 92—8 rem.
10. Divide 2170 by 14. *Ans.* 155.
11. Divide 90525 by 71. *Ans.* 1275.
12. Divide 153033 by 87. *Ans.* 1759.
13. Divide 7210473 by 37. *Ans.* 194877—24 rem
14. Divide 147735 by 45. *Ans.* 3283.
15. Divide 18576 by 48. *Ans.* 387.
16. Divide 9576 by 72. *Ans.* 133.
17. Divide 19296 by 96. *Ans.* 201.
18. Divide 67289 by 261. Ans. 257—212 rem.

LESSON IV.

Exercises in Division.

1. There are 1560 eggs to be packed in 24 baskets: how many must be put in each basket?

Ans. 65.

2. The sum of $19125 is to be divided equally among a certain number of men. Now, each receives $425: how many men receive the money?

3. If a man travel 12775 miles in a year of 365 days, how far does he walk each day? *Ans*. 35 miles.

4. A farmer sells a drove of sheep at $2 a head, and receives $1250: how many sheep did he sell?

Ans. 625.

5. By the census of 1830, it appeared that the city of New York contained 207020 inhabitants: allowing 5 to each house, how many houses were there in the city at that time? *Ans*. 41404.

6. A merchant has 5100 pounds of tea, and wishes to pack it in 60 chests: how many pounds must he put in each chest? *Ans*. 85.

7. A farmer goes to a store and buys a piece of cloth containing 36 yards, for which he pays $288: how much does he pay per yard? *Ans*. $8

8. There are 24 hours in a day: how many days in 2040 hours? *Ans*. 85.

9. Twenty-three persons dined together; their bill was $92: how much had each to pay? Ans. $4.

LESSON V.

Exercises on the preceding Rules.

Question. When the cost of each of several things is known, how do you find the entire cost?

Answer. Add the costs of the several things together, and the sum will be the entire cost.

1. What is the entire cost of a bag of coffee at $6, a chest of tea at $4, a box of raisins at $2, and a barrel of sugar at $12? *Ans.* $24.

2. John gives $1,37½ for a pair of shoes, 25 cents for a penknife, and 12½ cents for a pencil: how much does he pay for all? *Ans.* $1,75.

3. James gives 50 cents for a dozen of oranges, 12½ cents for a dozen of apples, and 30 cents for a pound of raisins: how much does he pay for all?

Ans. $0,92½.

4. A grocer bought a box of candles for $6,89, a box of cheese for $25,04, a keg of raisins for $1,12½, and a cask of wine for $40,37: how much did the whole cost him? *Ans.* $73,42½.

5. A man owes to A $630,49, to B $25, to C $0,87½: how much does he owe in all? *Ans.* $656,36½.

6. What is the entire cost of the following things, viz: 2 gallons of molasses, 57 cents; half a pound of tea, 37½ cents; one yard of broadcloth, $3,37; and 8 yards of flannel, at $9,87½?

LESSON VI.

1. When you have the cost of a single thing, how will you find the cost of any number of things at the same rate?

Answer. Multiply the cost of a single thing by the number of things.

2. What is the cost of 35 pears, at 2 cents each?
Ans. $0,70.

3. What is the cost of 45 yards of cloth, at $3 a yard?
Ans. $135.

4. What is the cost of 400 sheep, at $3 apiece?
Ans. $1200.

5. What is the cost of 40 cows, at $25 each?
Ans. $1000.

6. What is the cost of 3 dozen of chairs, at $75 a dozen?
Ans. $225.

7. What is the cost of 95 yards of ribbon, at 20 cents a yard?
Ans. $19,00.

8. What is the cost of sixty-five lamps, at $3,75 each?
Ans. $243,75.

9. What is the cost of eighty-four horses, at $95 each?
Ans. $7980

10. What is the cost of 300 yards of cloth, at $4,25 a yard?
Ans. $1275

11. What is the cost of 357 bushels of wheat, at $1,25 a bushel?
Ans. $446,25.

12. If one pound of tea cost 75 cents, what will be *the cost of 400* pounds?
Ans. $300.

LESSON VII.

Exercises in the former Rules.

1. A farmer bought a yoke of oxen for $90, 3 cows for $25 each, 9 calves at $4 each, and 65 sheep at $3 each: how much did he give for them all? *Ans.* $396.

2. The sum of two numbers is 36891, and one of the numbers is 8972: what is the other? *Ans.* 27919.

3. The difference of two numbers is 95, the less number 327: what is the greater? *Ans.* 422.

4. A farmer has 14 calves worth $4 each, and 40 sheep worth $3 each; he gives them all for a horse worth $150: does he make or lose by the bargain? *Ans.* Loses $26.

5. If a piece of cloth containing 65 yards costs $455, what does it cost per yard? *Ans.* $7.

6. A man has six children, all of whom are married, and each has four children; two of these grandchildren are married, and each has one child: how many children, grandchildren, and great-grandchildren are there? *Ans.* 32.

7. A merchant bought cloth at $9 a yard, and for which he paid $6174: how many yards did he buy? *Ans.* 686.

8. A drover bought a lot of sheep, for which he paid $896; on counting them he found he had 256: how much did they cost him apiece? *Ans.* $3,50.

9. A farmer purchased a farm, for which he paid $18050; he sold 50 acres for $60 an acre, and the remainder stood him in $50 an acre: how much land did he buy? *Ans.* 351 acres.

LESSON VIII.

Exercises in Addition and Subtraction of Federal Money.

$.	cts.	m.	$.	cts.	m.	$.	cts.	m.
67	05	8	46	27	7	96	90	8
7	17	8	21	04	3	127	87	6
20	41	2	6	88	5	3	04	7
$94	64	8	$74	20	5	$227	83	1

$.	cts.	m.	$.	cts.	m.	$.	cts.	m.
378	27	4	879	04	7	927	27	4
37	04	5	627	49	3	327	09	5
128	41	6	127	04	2	14	21	3
4327	05	9	400	21	6	6	89	2

	$.	cts.	m.	$.	cts.	m.	$.	cts.	m.
From	128	87	5	90	40	8	169	81	8
Take	20	90	3	80	29	6	26	42	6
Rem.	107	97	2	10	11	2	143	39	2

	$.	cts.	m.	$.	cts.	m.	$.	cts.	m.
From	825	67	4	167	98	8	128	69	8
Take	127	48	3	67	47	3	84	60	7
Rem.	698	19	1	100	51	5	44	09	1

1. John bought a pound of tea for $6,04, a loaf of sugar for $1,75, a gallon of vinegar for 87½ cents, and a box of candles for $2,75½: what did the whole cost? *Ans.* 11,42.

2. A man's income is $3000 a year; he spends $187,50: how much does he lay up? *Ans.* $2812,50.

3. The dairy of a farmer produces $600, of which he expends $250: how much does he make?

Ans. $350.

LESSON IX.

Exercises in Multiplication and Division of Federal Money.

1. Multiply 375 dollars, 26 cents, and 4 mills, by 3; also by 4.

$.	cts.	m.	$.	cts.	m.
$375	26	4	$375	26	4
		3			4
$1125	79	2	$1501	05	6

2. What will 55 yards of cloth cost, at 37 cents a yard? *Ans*. $20,35.

3. What will 85 pounds of tea cost, at $1,37½ a pound? *Ans*. $116,87,5.

4. A bale of cloth contains 95 pieces, costing $40,37,5 each: what is the entire cost of the bale? $*Ans*. 3835,62,5.

5. What is the cost of 356 sheep, at $3,25 apiece? *Ans*. $1157.

6. What is the value of 47 barrels of apples, at $¾ a barrel? *Ans*. $35,25.

7. What is the cost of 6000 bricks, at $4,37,5 a thousand? *Ans*. $26,25

8. There are $18000 to be divided between 40 men: how much must each receive? *Ans*. $450.

9. A farmer purchased a farm containing 725 acres for which he paid $18306,25: how much did it cost him per acre? *Ans*. $25,25.

10. A drover pays $1250 for 500 sheep: what must *he sell them* for apiece, that he may neither make nor *ose by the* bargain? Ans. $2,50.

LESSON X.

About Denominate Numbers.

Question. What is a denominate number?

Answer. One in which the kind of unit is *named.* Thus, 3 pounds of tea is a denominate number—the unit of which is one pound of tea.

Question. What is the unit of the number four yards? What is the unit of the number six hours?

1. In £30 how many shillings? *Ans.* 600.
2. In 10*s.* how many pence? *Ans.* 120.
3. In 11*d.* how many farthings? *Ans.* 44.
4. Reduce £15 19*s.* 11*d.* to farthings. *Ans.* 15356.
5. Reduce 44 farthings to pence. *Ans.* 11.
6. Reduce 228*d.* to shillings. *Ans.* 19.
7. How many farthings are there in £2? *Ans.* 1920.
8. How many farthings in £27 6*s.* 8*d.*? *Ans.* 26240.
9. How many farthings in £1465 14*s.* 5*d.*? *Ans.* 1407092.
10. How many pence in £45 12*s.* 10*d.*? *Ans.* 10954.
11. How many pence in £145 16*s.* 11*d*? *Ans.* 35003.
12. How many pounds in 3138 farthings? *Ans.* £3 5*s.* 4*d.* 2*far.*
13. In 1549 farthings, how many pounds? *Ans.* £1 12*s.* 3¼*d.*
14. In 1046 pence, how many pounds? *Ans.* £4 7*s.* 2*d.*
15. In 6169 pence, how many pounds? Ans. £25 14s. 1d.

LESSON XI.

Exercises in Denominate Numbers.

1. How many minutes in two hours? *Ans.* 120.
2. How many seconds in a day? *Ans.* 86400.
3. How many seconds in a week? *Ans.* 604800
4. How many seconds in a year? *Ans.* 31557600
5. How many barley-corns in a mile? *Ans.* 190080.
6. How many inches in a mile? *Ans.* 63360.
7. How many inches in a furlong? *Ans.* 7920.
8. How many inches in a rod? *Ans.* 198.
9. In 59 *mi.*, 7 *fur.*, 38 *rd.*, how many rods? *Ans.* 19198.
10. In 194656 *bar.*, how many feet? *Ans.* 5407 *ft.*, 1 *in.*, 1 *bar.*
11. In 115188 rods, how many miles? *Ans.* 359 *mi.*, 7 *fur.*, 28 *rd.*
12. In one pound, avoirdupois, how many drams? *Ans.* 256
13. In one quarter, avoirdupois, how many drams? *Ans.* 7168.
14. In one hundred, avoirdupois, how many drams? *Ans.* 28672.
15. In one ton, how many drams? *Ans.* 573440.
16. Reduce 94 *T.*, 19 *cwt.*, 1 *qr.*, to quarters. *Ans.* 7597 *qr.*
17. Reduce 108910592 drams to tons. *Ans.* 189 *T.*, 18 *cwt.*, 2 *qr.*
18. *Reduce* 2998128 ounces to tons. *Ans.* 83 T., 13 cwt., 0 qr., 7 lb.

LESSON XII.

Exercises in Denominate Numbers

1. In one square foot, how many square inches?
Ans. 144.

2. In one square yard, how many square inches?
Ans. 1296.

3. In one square perch, how many square inches?
Ans. 39204.

4. In one rood, how many square inches?
Ans. 1568160.

5. In one acre, how many square inches?
Ans. 6272640.

6. In 19 *A.*, 2 *R.*, 37 *P.*, now many square poles?
Ans. 3157.

7. In 37456 square inches, how many square feet?
Ans. 260 *sq. ft.*, 16 *in.*

8. In 14972 square rods, how many acres?
Ans. 93 *A.*, 2 *R.*, 12 *P*

9. In one pint, wine measure, how many gills?
Ans. 4.

10. In one quart, wine measure, how many gills?
Ans. 8.

11. In one gallon, wine measure, how many gills?
Ans. 32.

12. In one barrel, wine measure, how many gills?
Ans. 1008.

13. In one hogshead, wine measure, how many gills?
Ans. 2016.

14. In one pipe, wine measure, how many gills?
Ans. 4032.

15 In one tun, wine measure, how many gills?
Ans. 8064.

LESSON XIII.

Exercises in Denominate Numbers.

1. In beer measure, how many pints in a quart?

2. In one gallon, beer measure, how many pints?
Ans. 8

3. In one barrel, beer measure, how many pints?
Ans. 288

4. In one hogshead, beer measure, how many pints?
Ans. 432.

5. Reduce, in beer measure, 47 *bar.*, 16 *gal.*, 4 *qt.*, 16 pints.
Ans. 13672 *pt.*

6. In 27 *hhd.* of beer measure, how many pints?
Ans. 11664.

7. In 55832 pints of beer, how many hogsheads?
Ans. 129 *hhd.*, 13 *gal.*

8. In 64972 quarts of beer, how many barrels?
Ans. 451 *bar.*, 7 *gal.*

9. In one peck, dry measure, how many pints?
Ans. 16.

10. In one bushel, dry measure, how many pints?
Ans. 64.

11. In one chaldron, how many pints? *Ans.* 2304.

12. In 372 bushels, how many pints? *Ans.* 23808.

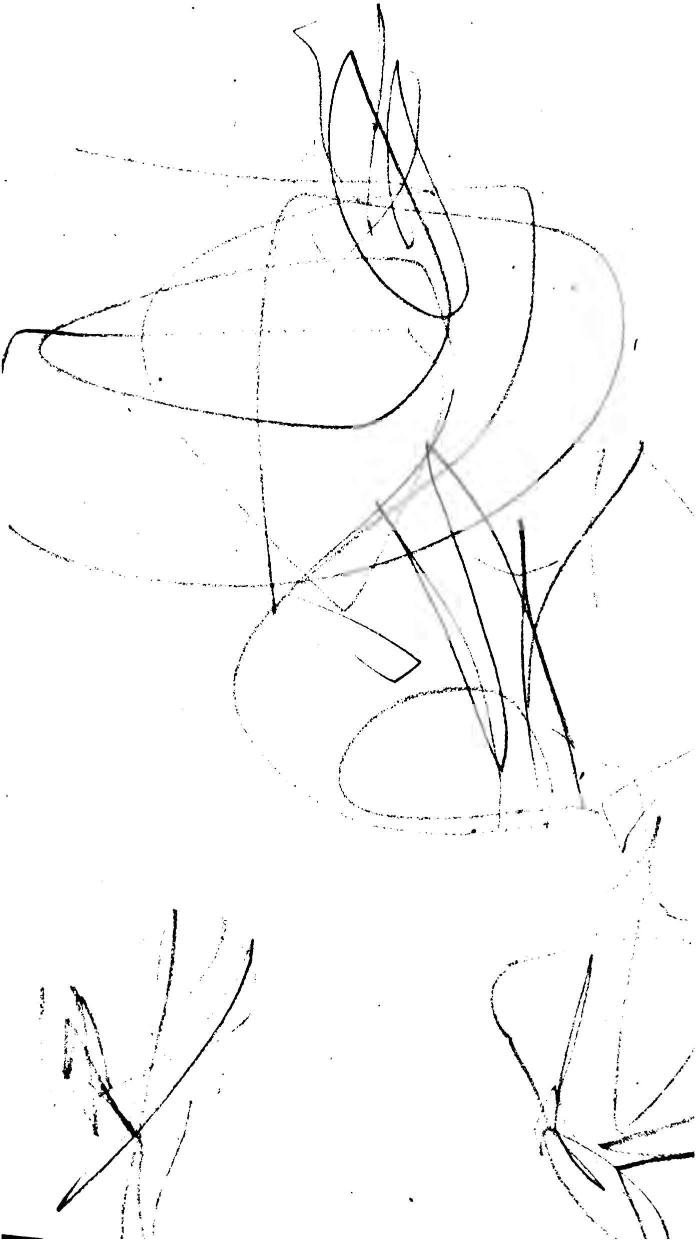
13. In 5 chaldrons, 31 bushels, how many pecks?
Ans. 844.

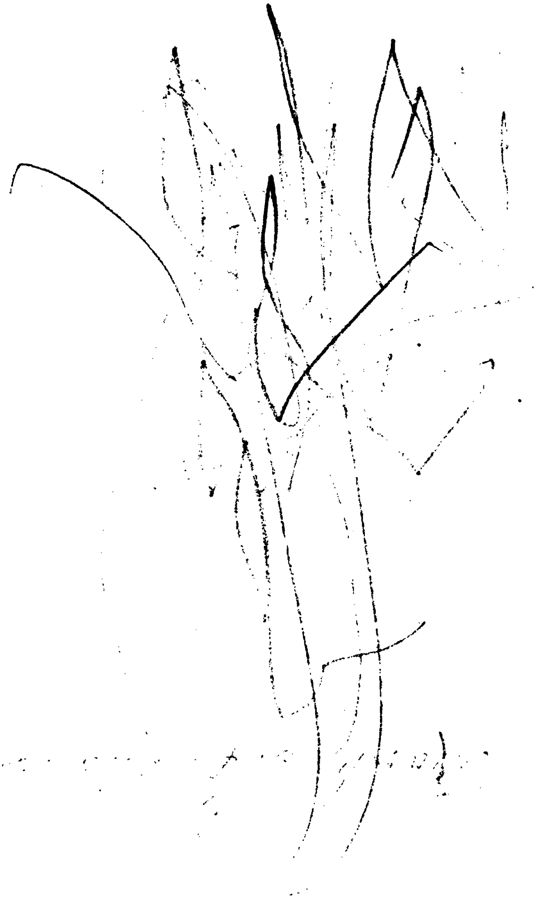
14. In circular motion, how many seconds in one minute?
Ans. 60.

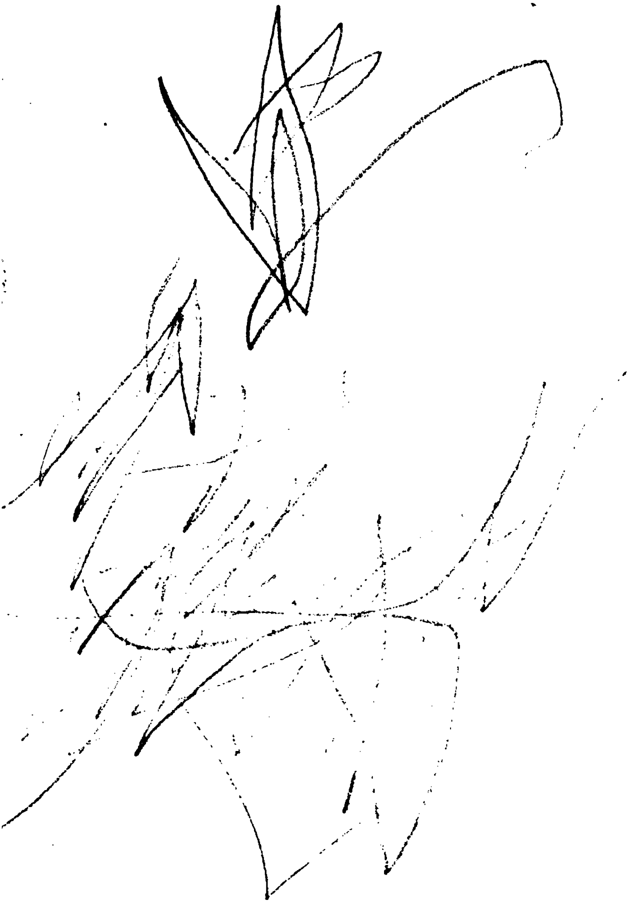
15. How many seconds in one degree? *Ans.* 3600.

16. In one sign, how many seconds? *Ans.* 108000.

17. In one circle, how many seconds? Ans. 1296000







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